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INTEROFFICE MEMORANDUM

Date: 22-Sep-1995 02:14pm EST
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TO: Thomas Cunningham (CUNNINGHAM.THOMAS)

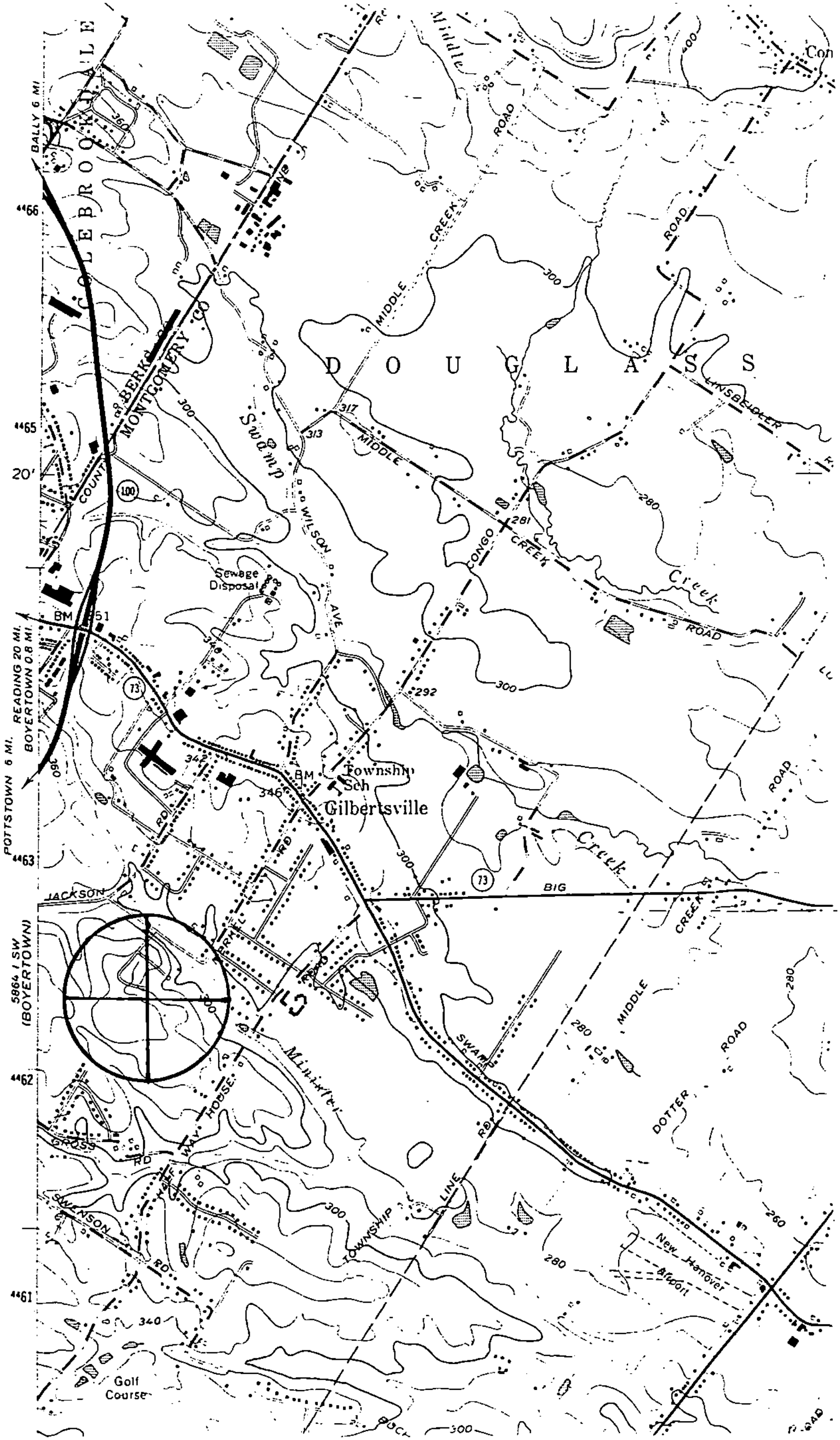
Subject: Boyertown Landfill 1995 RCRA CME PAD048603005

Boyertown Landfill is located on Merkel Road, in Douglass Township, Montgomery County. The area of concern for this CME is the entirety of the closed Hazardous Waste Landfill.

Due to the two year hiatus in groundwater sampling and analysis by the operator of this facility, the Department initiated and completed a round of sampling on it's own behalf. Samples were collected from all accessible wells proximal to the facility.

Analysis of these samples indicate that metal concentrations in groundwater appear to be elevated, in particular iron. Volatile organic compound analysis, however, indicated the presence of no compounds above the established detection limit. Based on these results it appears that the recent history of neglect at this facility has had some impact on groundwater quality proximal to the facility.

It is recommended that the facility operator should immediately reactivate the groundwater monitoring program at this facility, and also that the Department continue to pursue and exercise various enforcement actions to assure compliance with post closure care requirements.



COLEBROOKDALE
DOUGLASS
BERKS
MONTGOMERY CO
COUNTY
BALLY 6 MI.
READING 20 MI.
BOYERTOWN 0.8 MI.
POTTSTOWN 6 MI.
5864 I SW
(BOYERTOWN)
MIDDLE CREEK ROAD
MIDDLE
ROAD
Swamp
WILSON AVE
CONGO
CREEK
ROAD
Creek
Sewage Disposal
BM 351
Township Sch
Gilbertsville
BIG
JACKSON
Swamp
GROSS RD
SWENSON RD
HALF WAY HOUSE
TOWNSHIP LINE RD
MIDDLE CREEK ROAD
DOTTER ROAD
New Hanover Airport
Golf Course
4466
4465
20'
4463
4462
4461

APPENDIX A

-1995-

Comprehensive Ground-Water Monitoring Evaluation Worksheet

-Boyertown Landfill-

-Douglass Twp.-

-Montgomery Co.-

APPENDIX A

COMPREHENSIVE GROUND-WATER MONITORING EVALUATION WORKSHEET

The following worksheets have been designed to assist the enforcement officer/ technical reviewer in evaluating theground-water monitoring system an owner/operator uses to collect and analyze samples of ground water. The focus of the worksheets is technical adequacy as it relates to obtaining and analyzing representative samples of ground water. The basis of the worksheets is the final RCRA Ground Water Monitoring Technical Enforcement Guidance Document which describes in detail the aspects of ground-water monitoring which EPA deems essential to meet the goals of RCRA. Appendix A is not a regulatory checklist. Specific technical deficiencies in the monitoring system can, however, be related to the regulations as illustrated in Figure 4.3 taken from the RCRA Ground-Water Monitoring Compliance Order Guide (COG) (included at the end of the appendix). The enforcement officer, in developing an enforcement order, should relate the technical assessment from the worksheets to the regulations using Figure 4.3 from the COG as a guide.

Comprehensive Ground-Water Monitoring Evaluation	Y/N
I. Office Evaluation Technical Evaluation of the Design of the Ground-Water Monitoring System	
A. Review of Relevant Documents	
1. What documents were obtained prior to conducting the inspection:	
a. RCRA Part A permit application?	Y
b. RCRA Part B permit application?	Y
c. Correspondence between the owner/operator and appropriate agencies or citizen's groups?	Y
d. Previously conducted facility inspection reports?	Y
e. Facility's contractor reports?	N
f. Regional hydrogeologic, geologic, or soil reports?	Y
g. The facility's Sampling and Analysis Plan?	N
h. Ground-water Assessment Program Outline (or Plan, if thefacility is in assessment monitoring)?	N
i. Other (specify) _____	—

	Y/N
Auger (hollow or solid stem) ____ Mud rotary ____ Reverse rotary ____ Cable tool ____ Jetting ____ Other (specify) _____	?
e. Were continuous sample corings taken?	?
f. How were the samples obtained (checked method[s]) • Split spoon ____ • Shelby tube, or similar ____ • Rock coring ____ • Ditch sampling ____ • Other (explain) _____	?
g. Were the continuous sample corings logged by a qualified professional in geology?	?
h. Does the field boring log include the following information: • Hole name/number?	?
• Date started and finished?	?
• Driller's name?	?
• Hole location (i.e., map and elevation)?	?
• Drill rig type and bit/auger size?	?
• Gross petrography (e.g., rock type) of each geologic unit?	?
• Gross mineralogy of each geologic unit?	?
• Gross structural interpretation of each geologic unit and structural features (e.g., fractures, gouge material, solution channels, buried streams or valleys, identification of depositional material)?	?
• Development of soil zones and vertical extent and description of soil type?	?
• Depth of water bearing unit(s) and vertical extent of each?	?
• Depth and reason for termination of borehole?	?
• Depth and location of any contaminant encountered in borehole?	?
• Sample location/number?	?
• Percent sample recovery?	?
• Narrative descriptions of: —Geologic observations?	?
—Drilling observations?	?
i. Were the following analytical tests performedon the core samples: • Mineralogy (e.g., microscopic tests and x-ray diffraction)?	?
• Petrographic analysis: —degree of crystallinity and cementation of matrix?	?
—degree of sorting, size fraction (i.e., sieving), textural variations?	?
—rock type(s)?	?

	Y/N
—soil type?	?
—approximate bulk geochemistry?	?
—existence of microstructures that may effect or indicate fluid flow?	?
• Falling head tests?	?
• Static head tests?	?
• Settling measurements?	?
• Centrifuge tests?	?
• Column drawings?	?
D. Verification of Subsurface Geological Data	
1. Has the owner/operator used indirect geophysical methods to supplement geological conditions between borehole locations?	N
2. Do the number of borings and analytical data indicate that the confining layer displays a low enough permeability to impede the migration of contaminants to any stratigraphically low water-bearing units?	N
3. Is the confining layer laterally continuous across the entire site?	N/A
4. Did the owner/operator consider the chemical compatibility of the site-specific waste types and the geologic materials of the confining layer?	Y
5. Did the geologic assessment address or provide means for resolution of any information gaps of geologic data?	N
6. Do the laboratory data corroborate the field data for petrography?	?
7. Do the laboratory data corroborate the field data for mineralogy and subsurface geochemistry?	?
E. Presentation of Geologic Data	
1. Did the owner/operator present geologic cross sections of the site?	Y
2. Do cross sections:	
a. identify the types and characteristics of the geologic materials present?	Y
b. define the contact zones between different geologic materials?	Y
c. note the zones of high permeability or fracture?	Y
d. give detailed borehole information including:	N

	Y/N
• location of borehole?	N
• depth of termination?	N
• location of screen (if applicable)?	N
• depth of zone(s) of saturation?	Y
• backfill procedure?	N
3. Did the owner/operator provide a topographic map which was constructed by a licensed surveyor?	Y
4. Does the topographic map provide: a. contours at a maximum interval of two-feet?	Y
b. locations and illustrations of man-made features (e.g., parking lots, factory buildings, drainage ditches, storm drain, pipelines, etc.)?	Y
c. descriptions of nearby water bodies?	Y
d. descriptions of off-site wells?	N
e. site boundaries?	Y
f. individual RCRA units?	Y
g. delineation of the waste management area(s)?	Y
h. well and boring locations?	Y
5. Did the owner/operator provide an aerial photograph depicting the site and adjacent off-site features?	N
6. Does the photograph clearly show surface water bodies, adjacent municipalities, and residences and are these clearly labelled?	N
F. Identification of Ground-Water Flowpaths 1. Ground-water flow direction a. Was the well casing height measured by a licensed surveyor to the nearest 0.01 feet?	Y
b. Were the well water level measurements taken within a 24 hour period?	Y
c. Were the well water level measurements taken to the nearest 0.01 feet?	Y
d. Were the well water levels allowed to stabilize after construction and development for a minimum of 24 hours prior to measurements?	Y
e. Was the water level information obtained from (check appropriate one): • multiple piezometers placed in single borehole? ____ • vertically nested piezometers in closely spaced separate ____ • boreholes? ____ • monitoring wells? X	

	Y/N
f. Did the owner/operator provide construction details for the piezometers?	N
g. How were the static water levels measured (check method[s]). • Electric water sounder ____ • Wetted tape ____ • Air line ____ • Other (explain) ____	—
h. Was the well water level measured in wells with equivalent screened intervals at an equivalent depth below the saturated zone?	N
i. Has the owner/operator provided a site water table (potentiometric) contour map?	Y
If yes, • Do the potentiometric contours appear logical and accurate based on topography and presented data? (Consult water level data)	Y
• Are ground-water flow-lines indicated?	Y
• Are static water levels shown?	Y
• Can hydraulic gradients be estimated?	Y
j. Did the owner/operator develop hydrologic cross sections of the vertical flow component across the site using measurements from all wells?	N
k. Do the owner/operator's flow nets include: • piezometer locations?	N
• depth of screening?	N
• width of screening?	N
• measurements of water levels from all wells and piezometers?	N
2. Seasonal and temporal fluctuations in ground-water	
a. Do fluctuations in static water levels occur? If yes, are the fluctuations caused by any of the following:	Y
—Off-site well pumping	N
—Tidal processes or other intermittent natural variations (e.g., river stage, etc.)	N
—On-site well pumping	N
—Off-site, on-site construction or changing land use patterns	N
—Deep well injection	N
—Seasonal variations	Y
—Other (specify) ____	—
b. Has the owner/operator documented sources and patterns that contribute to or affect the ground-water patterns below the waste management?	Y
c. Do water level fluctuations alter the general ground-water gradients and flow directions?	Y
d. Based on water level data, do any head differentials occur that may indicate a vertical flow component in the saturated zone?	Y

	Y/N
e. Did the owner/operator implement means for gauging long term effects on water movement that may result from on-site or off-site construction or changes in land-use patterns?	N
3. Hydraulic conductivity a. How were hydraulic conductivities of the subsurface materials determined?	?
• Single-well tests (slug tests)?	?
• Multiple-well tests (pump tests)	?
• Other (specify) _____	?
b. If single-well tests were conducted, was it done by:	
• Adding or removing a known volume of water?	?
• Pressurizing well casing?	?
c. If single well tests were conducted in a highly permeable formation, were pressure transducers and high-speed recording equipment used to record the rapidly changing water levels?	?
d. Since single well tests only measure hydraulic conductivity in a limited area, were enough tests run to ensure a representative measure of conductivity in each hydrogeologic unit?	?
e. Is the owner/operator's slug test data (if applicable) consistent with existing geologic information (e.g., boring logs)?	?
f. Were other hydraulic conductivity properties determined?	?
g. If yes, provide any of the following data, if available: • Transmissivity ____ • Storage coefficient ____ • Leakage ____ • Permeability ____ • Porosity ____ • Specific capacity ____ • Other (specify) _____	?
4. Identification of the uppermost aquifer a. Has the extent of the uppermost saturated zone (aquifer) in the facility area been defined? If yes,	Y
• Are soil boring/test pit logs included?	N
• Are geologic cross-sections included?	N
b. Is there evidence of confining (competent, unfractured, continuous, and low permeability) layers beneath the site? If yes,	Y
• how was continuity demonstrated? REGIONAL PETROGRAPHY	
c. What is hydraulic conductivity of the confining unit (if present)? CM/Sec How was it determined?	?

	Y/N
d. Does potential for other hydraulic communication exist (e.g., lateral inconnnuity between geologic units, facies changes, fracture zones, cross cutting structures, or chemical corrosion/alteration of geologic units by leachage? If yes or no, what is the rationale? REGIONAL FRACTURES, BRUNSWICK FM.	
G. Office Evaluation of the Facility's Ground-Water Monitoring System—Monitoring Well Design and Construction: These questions should be answered for each different well design present at the facility. 1. Drilling Methods a. What drilling method was used for the well? • Hollow-stem auger ☐ • Solid-stem auger ☐ • Mud rotary ☐ • Air rotary ☐ • Reverse rotary ☐ • Cable tool ☐ • Jetting ☐ • Air drill w/ casing hammer ☐ • Other (specify) _____	?
b. Were any cutting fluids (including water) or additives used during drilling? If yes, specify: • Type of drilling fluid _____ • Source of water used _____ • Foam _____ • Polymers _____ • Other _____	?
c. Was the cutting fluid, or additive, identified?	N
d. Was the drilling equipment steam-cleaned prior to drilling the well? • Other methods _____	?
e. Was compressed air used during drilling? If yes, • was the air filtered to remove oil?	?
f. Did the owner/operator document procedure for establishing the potentiometric surface? If yes, • how was the location established?	?
g. Formation samples	?

	Y/N
• Were formation samples collected initially during drilling?	?
• Were any cores taken continuous?	?
• If not, at what interval were samples taken?	?
• How were the samples obtained? —Split spoon —Shelby tube —Core drill —Other (specify)	?
• Identify if any physical and/or chemical tests were performed on the formation samples (specify) _____ _____ _____	?
2. Monitoring Well Construction Materials **a. Identify construction materials (by number) and diameters (ID/OD)** **Material** / **Diameter** • Primary Casing: PVC / 4" • Secondary or outside casing (doubleconstruction): ____ / ____ • Screen: ____ / ____	
b. How are the sections of casing and screen connected? • Pipe sections threaded	?
• Couplings (friction) with adhesive or solvent	?
• Couplings (friction) with retainer screws	?
• Other (specify)	?
c. Were the materials steam-cleaned prior to installation? • If no, how were the materials cleaned? _____	?
3. Well Intake Design and Well Development	?
a. Was a well intake screen installed? • What is the length of the screen for the well? _____	?
• Is the screen manufactured?	?
b. Was a filter pack installed?	?
• What kind of filter pack was employed? _____	?
• Is the filter pack compatible with formationmaterials?	?
• How was the filter pack installed? _____	?

	Y/N
• What are the dimensions of the filter pack? _____	?
• Has a turbidity measurement of the well water ever been made?	Y
• Have the filter pack and screen been designed for the insitu materials? _____	?
c. Well development • Was the well developed?	Y
• What technique was used for well development? —Surge block —Bailer —Air surging XXX—Water pumping —Other (specify) _____	
4. Annular Space Seals a. What is the annular space in the saturated zone directlyabove the filter pack filled with: —Sodium bentonite (specify type and grit) —Cement (specify neat or concrete) —Other (specify)	?
b. Was the seal installed by: —Dropping material down the hole and tamping —Dropping material down the inside of hollow-stem auger —Tremie pipe method —Other (specify)	?
c. Was a different seal used in the unsaturated zone? If yes,	?
• Was this seal made with? —Sodium bentonite (specify type and grit) —Cement (specify neat or concrete)- Other (specify)	?
• Was this seal installed by? —Dropping material down the hole and tamping —Dropping material down the inside of hollow stem auger —Other (specify)	?
d. Is the upper portion of the borehole sealed with a concrete cap to prevent infiltration from the surface?	Y
e. Is the well fitted with an above-ground protectivedevice and bumper guards?	Y
f. Has the protective cover been installed with locks to prevent tampering?	Y

	Y/N
H. Evaluation of the Facility's Detection Monitoring Program	
1. Placement of Downgradient Detection Monitoring Wells	
a. Are the ground-water monitoring wells or clusters located immediately adjacent to the waste management area?	Y
b. How far apart are the detection monitoring wells?	100-500'
c. Does the owner/operator provide a rationale for thelocation of each monitoring well or cluster?	Y
d. Does the owner/operator identified the well screenlengths of each monitoring well or clusters?	N
e. Does the owner/operator provide an explanation for the well screen lengths of each monitoring well orcluster?	N
f. Do the actual locations of monitoring wells orclusters correspond to those identified by the owner/operator?	Y
2. Placement of Upgradient Monitoring Wells	
a. Has the owner/operator documented the location ofeach upgradient monitoring well or cluster?	Y
b. Does the owner/operator provide an explanation forthe location(s) of the upgradient monitoring wells?	Y
c. What length screen has the owner/operator employed inthe background monitoring well(s)?	?
d. Does the owner/operator provide an explanation for the screen length(s) chosen?	N
e. Does the actual location of each background monitoring well or cluster correspond to that identified by the owner/operator?	Y
I. Office Evaluation of the Facility's Assessment Monitoring Program	
1. Does the assessment plan specify:	Y
a. The number, location, and depth of wells?	
b. The rationale for their placement and identify the basis that will be used to select subsequent sampling locations and depths in later assessment phases?	Y
2. Does the list of monitoring parameters include all hazardous waste constituents from the facility?	Y

	Y/N
a. Does the water quality parameter list include other important indicators not classified as hazardous waste constituents?	N
b. Does the owner/operator provide documentation for he listed wastes which are not included?	N
3. Does the owner/operator's assessment plan specify the procedures to be used to determine the rate of constituent migration in the ground-water?	N
4. Has the owner/operator specified a schedule of implementation in the assessment plan?	N
5. Have the assessment monitoring objectives been clearly defined in the assessment plan?	N
a. Does the plan include analysis and/or re-evaluation to determine if significant contamination has occurredin any of the detection monitoring wells?	N
b. Does the plan provide for a comprehensive program of investigation to fully characterize the rate and extent of contaminant migration from the facility?	N
c. Does the plan call for determining the concentrations of hazardous wastes and hazardous waste constituentsin the ground water?	N
d. Does the plan employ a quarterly monitoring program?	N
6. Does the assessment plan identify the investigatory methods that will be used in the assessment phase?	Y
a. Is the role of each method in the evaluation fully described?	N
b. Does the plan provide sufficient descriptions of the direct methods to be used?	N
c. Does the plan provide sufficient descriptions of the indirect methods to be used?	N
d. Will the method contribute to the further characterization of the contaminant movement?	Y
7. Are the investigatory techniques utilized in the assessment program based on direct methods?	Y
a. Does the assessment approach incorporate indirect methods to further support direct methods?	N
b. Will the planned methods called for in the assessment approach ultimately meet performance standards for assessment monitoring?	?
c. Are the procedures well defined?	Y
d. Does the approach provide for monitoring wells similar in design and construction as the detectionmonitoring wells?	Y

	Y/N
e. Does the approach employ taking samples during drilling or collecting core samples for further analysis?	N
8. Are the indirect methods to be used based on reliable and accepted geophysical techniques?	N/A
a. Are they capable of detecting subsurface changesresulting from contaminant migration at the site?	N/A
b. Is the measurement at an appropriate level of sensitivity to detect ground-water quality changes at the site?	Y
c. Is the method appropriate considering the nature of the subsurface materials?	Y
d. Does the approach consider the limitations of these methods?	Y
e. Will the extent of contamination and constituent concentration be based on direct methods and sound engineering judgment? (Using indirect methods tofurther substantiate the findings.)	Y
9. Does the assessment approach incorporate any mathe-matical modeling to predict contaminant movement?	N
a. Will site specific measurements be utilized toaccurately portray the subsurface?	?
b. Will the derived data be reliable?	?
c. Have the assumptions been identified?	?
d. Have the physical and chemical properties of the site-specific wastes and hazardous waste constituentsbeen identified?	Y
J. Conclusions	
1. Subsurface geology	
a. Has sufficient data been collected to adequately define petrography and petrographic variation?	Y
b. Has the subsurface geochemistry been adequately defined?	Y
c. Was the boring/coring program adequate to definesubsurface geologic variation?	?
d. Was the owner/operator's narrative description complete and accurate in its interpretation of the data?	Y
e. Does the geologic assessment address or provide means to resolve any information gaps?	?
2. Ground-water flowpaths	Y
a. Did the owner/operator adequately establish the hori-zontal and vertical components of ground-water flow?	

	Y/N
b. Were appropriate methods used to establish ground-water flowpaths?	Y
c. Did the owner/operator provide accurate documentation?	N
d. Are the potentiometric surface measurements valid?	?
e. Did the owner/operator adequately consider the seasonal and temporal effects on the ground-water?	?
f. Were sufficient hydraulic conductivity tests performed to document lateral and vertical variationin hydraulic conductivity in the entire hydrogeologic subsurface below the site?	N
3. Uppermost Aquifer a. Did the owner/operator adequately define the upper-most aquifer?	Y
4. Monitoring Well Construction and Design a. Do the design and construction of the owner/operator's ground-water monitoring wells permit depth discrete ground-water samples to be taken?	Y
b. Are the samples representative of ground-water quality?	?
c. Are the ground-water monitoring wells structurally stable?	Y
d. Does the ground-water monitoring well's design and construction permit an accurate assessment of aquifer characteristics?	Y
5. Detection Monitoring a. Downgradient Wells • Do the location, and screen lengths of the ground-water monitoring wells or clusters in the detection monitoring system allow the immediate detection of a release of hazardous waste or constituents from the hazardous waste management area to the uppermost aquifer?	?
b. Upgradient Wells • Do the location and screen lengths of the upgradient (background) ground-water monitoring wells ensure the capability of collecting ground-water samples representative of upgradient (background) ground-water quality including any ambient heterogenous chemical characteristics?	Y
6. Assessment Monitoring a. Has the owner/operator adequately characterized site hydrogeology to determine contaminant migration?	Y
b. Is the detection monitoring system adequately designed and constructed to immediately detect any contaminant release?	?

	Y/N
c. Are the procedures used to make a first determinationof contamination adequate?	N
d. Is the assessment plan adequate to detect, characterize, and track contaminant migration?	Y
e. Will the assessment monitorng wells, given site hydrogeologic conditions, define the extent and concentration of contamination in the horizontal and vertical planes?	Y
f. Are the assessment monitoring wells adequately designed and constructed?	?
g. Are the sampling and analysis procedures adequate to provide true measures of contamination?	Y
h. Do the procedures used for evaluation of assessment monitoring data result in determinations of the rate of migration, extent of migration, and hazardous constituent composition of the contaminant plume?	N
i. Are the data collected at sufficient frequency and duration to adequately determine the rate of migration?	N
j. Is the schedule of implementation adequate?	N
k. Is the owner/operator's assessment monitoring plan adequate?	N
• If the owner/operator had to implement hisassessment monitoring plan, was it implemented satisfactorily?	N
II. Field Evaluation **A. Ground-Water Monitoring System** 1. Are the numbers, depths, and locations of monitoring wells in agreement with those reported in the facility's monitoring plan? (See Section 3.2.3.)	Y
B. Monitoring Well Construction 1. Identify construction material material diameter a. Primary Casing PVC b. Secondary or outside casing STEEL	
2. Is the upper portion of the borehole sealed with conrete to prevent infiltration from the surface?	Y
3. Is the well fitted with an above-ground protective device?	Y
4. Is the protective cover fitted with locks to prevent tampering? If a facility utilizes more than a single well design, answer the above questions for each well design?	Y

	Y/N
III. Review of Sample Collection Procedures	
A. Measurement of Well Depths /Elevation	
1. Are measurements of both depth to standing water and depth to the bottom of the well made?	N
2. Are measurements taken to the 0.01 feet?	N
3. What device is used?	N/A
4. Is there a reference point established by a licensed surveyor?	N/A
5. Is the measuring equipment properly cleaned betweenwll locations to prevent cross contamination?	N
B. Detection of Immiscible Layers	
1. Are procedures used which will detect light phase immiscible layers?	N
2. Are procedures used which will detect heavy phase immiscible layers?	N
C. Sampling of Immiscible Layers	
1. Are the immiscible layers sampled separately prior to well evacuation?	N
2. Do the procedures used minimize mixing with watersoluble phases?	N
D. Well Evacuation	
1. Are low yielding wells evacuated to dryness?	N
2. Are high yielding wells evacuated so that at least three casing volumes are removed?	N
3. What device is used to evacuate the wells?	N/A
4. If any problems are encountered (e.g., equipmentmalfunction) are they noted in a field logbook?	N

	Y/N
E. Sample Withdrawal	
1. For low yielding wells, are samples for volatiles, pH, and oxidation/reduction potential drawn first after the well recovers?	N
2. Are samples withdrawn with either flurocarbon/resins or stainless steel (316, 304 or 2205) sampling devices?	N
3. Are sampling devices either bottom valve bailers or positive gas displacement bladder pumps?	N
4. If bailers are used, is fluorocarbon/resin coated wire, single strand stainless steel wire, or monofilament used to raise and lower the bailer?	N
5. If bladder pumps are used, are they operated in acontinuous manner to prevent aeration of the sample?	N
6. If bailers are used, are they lowered slowly to prevent degassing of the water?	N
7. If bailers are used, are the contents transferred to the sample container in a way that minimizes agitation and aeration?	N
8. Is care taken to avoid placing clean sampling equipment on the ground or other contaminated surfaces prior to insertion into the well?	N
9. If dedicated sampling equipment is not used, is equipment disassembled and thoroughly cleaned between samples?	N
10. If samples are for inorganic analysis, does the cleaning procedure include the following sequential steps: a. Dilute acid rinse (HNO_3 or HCl)?11. If samples are for organic analysis, does the cleaning procedure include the following sequential steps:	N
11. If samples are for inorganic analysis, does the cleaning procedure include the following sequential steps: a. Nonphosphate detergent wash?	N
b. Tap water rinse?	N
c. Distilled/deionized water rinse?	N
d. Acetone rinse?	N
e. Pesticide-grade hexane rinse?	N

	Y/N
12. Is sampling equipment thoroughly dry before use?	N
13. Are equipment blanks taken to ensure that sample cross-contamination has not occurred?	N
14. If volatile samples are taken with a positive gas displacement bladder pump, are pumping rates below 100 ml/min?	N
F. In-situ or Field Analyses	
1. Are the following labile (chemically unstable) parameters determined in the field:	N
a. pH?	N
b. Temperature?	N
c. Specific conductivity?	N
d. Redox potential?	N
e. Chlorine?	N
f. Dissolved oxygen?	N
g. Turbidity?	N
h. Other (specify) _____	N
2. For in-situ determinations, are they made after well evacuation and sample removal?	N
3. If sample is withdrawn from the well, is parameter measured from a split portion?	N
4. Is monitoring equipment calibrated according to manufacturers' specifications and consistent with SW-846?	N
5. Is the date, procedure, and maintenance for equipment calibration documented in the field logbook?	N
IV. Review of Sample Preservation and Handling Procedures	
A. Sample Containers	
1. Are samples transferred from the sampling device directly to their compatible containers?	N

	Y/N
2. Are sample containers for metals (inorganics) analyses polyethylene with polypropylene caps?	N
3. Are sample containers for organics analysis glass bottles with fluorocarbonresin-lined caps?	N
4. If glass bottles are used for metals samples are the caps fluorocarbonresin-lined?	N
5. Are the sample containers for metal analyses cleanedusing these sequential steps:	N
a. Nonphosphate detergent wash?	
b. 1:1 nitric acid rinse?	N
c. Tap water rinse?	N
d. 1:1 hydrochloric acid rinse?	N
e. Tap water rinse?	N
f. Distilled/deionized water rinse?	N
6. Are the sample containers for organic analyses cleaned using these sequential steps:	N
a. Nonphosphate detergent/hot water wash?	
b. Tap water rinse?	N
c. Distilled/deionized water rinse?	N
d. Acetone rinse?	N
e. Pesticide-grade hexane rinse?	N
7. Are trip blanks used for each sample container type to verify cleanliness?	N
B. Sample Preservation Procedures	
1. Are samples for the following analyses cooled to 4°C:	N
a. TOC?	
b. TOX?	
c. Chloride?	N
d. Phenols?	N
e. Sulfate?	N
f. Nitrate?	N
g. Coliform bacteria?	N
h. Cyanide?	N
i. Oil and grease?	N
j. Hazardous constituents ()261, Appendix VIII)?	N

	Y/N
2. Are samples for the following analyses field acidified to pH <2 with HNO_3:	
a. Iron?	N
b. Manganese?	N
c. Sodium?	N
d. Total metals?	N
e. Dissolved metals?	N
f. Fluoride?	N
g. Endrin?	N
h. Lindane?	N
i. Methoxychlor?	N
j. Toxaphene?	N
k. 2,4, D?	N
l. 2,4,5 TP Silvex?	N
m. Radium?	N
n. Gross alpha?	N
o. Gross beta?	N
3. Are samples for the following analyses field acidified to pH <2 with H_2SO_4:	
a. Phenols?	N
b. Oil and grease?	N
4. Is the sample for TOC analyses field acified to pH <2 with HCl?	N
5. Is the sample for TOX analysis preserved with 1 ml of 1.1 M sodium sulfite?	N
6. Is the sample for cyanide analysis preserved with NaOH to pH >12?	N
C. Special Handling Considerations	
1. Are organic samples handled without filtering?	N
2. Are samples for volatile organics transfered to the appropriate vials to eliminate headspace over the sample?	N
3. Are samples for metal analysis split into two portions?	N
4. Is the sample for dissolved metals filtered through a 0.45 micron filter?	N
5. Is the second portion not filtered and analyzed for total metals?	N
6. Is one equipment blank prepared each day of ground-water sampling?	N

	Y/N
V. Review of Chain-of-Custody Procedures	
A. Sample Labels	
1. Are sample labels used?	N
2. Do they provide the following information:	N
a. Sample identification number?	
b. Name of collector?	N
c. Date and time of collection?	N
d. Place of collection?	N
e. Parameter(s) requested and preservitives used?	N
3. Do they remain legible even if wet?	N
B. Sample Seals	
1. Are sample seals placed on those containers to ensure samples are not altered?	N
C. Field Logbook	
1. Is a field logbook maintained?	N
2. Does it document the following:	
a. Purpose of sampling (e.g., detection or assesment)?	N
b. Location of well(s)?	N
c. Total depth of each well?	N
d. Static water level depth and measurement technique?	N
e. Presence of immiscible layers and detection method?	N
f. Collection method for immiscible layers and sample identification numbers?	N
g. Well evacuation procedures?	N
h. Sample withdrawal procedure?	N
i. Date and time of collection?	N
j. Well sampling sequence?	N
k. Types of sample containers and sample identification number(s)?	N
l. Preservative(s) used?	N
m. Parameters requested?	N
n. Field analysis data and method(s)?	N
o. Sample distribution and transporter?	N
p. Field observations?	N

	Y/N
—Unusual well recharge rates?	N
—Equipment malfunction(s)?	N
—Possible sample contamination?	N
—Sampling rate?	N
D. Chain-of-Custody Record 1. Is a chain-of-custody record included with each sample?	N
2. Does it document the following: a. Sample number?	N
b. Signature of collector?	N
c. Date and time of collection?	N
d. Sample type?	N
e. Station location?	N
f. Number of containers?	N
g. Parameters requested?	N
h. Signatures of persons involved in chain-of-custody?	N
i. Inclusive dates of custody?	N
E. Sample Analysis Request Sheet 1. Does a sample analysis request sheet accompany each sample?	N
2. Does the request sheet document the following: a. Name of person receiving the sample?	N
b. Date of sample receipt?	N
c. Duplicates?	N
d. Analysis to be performed?	N
IV. Review of Quality Assurance/Quality Control **A. Is the validity and reliability of the laboratory and field generated data ensured by a QA/QC program?**	N
B. Does the QA/QC program include: 1. Documentation of any deviation from approved procedures?	N

	Y/N
2. Documentation of analytical results for: a. Blanks?	N
b. Standards?	N
c. Duplicates?	N
d. Spiked samples?	N
e. Detectable limits for each parameter being analyzed?	N
C. Are approved statistical methods used?	N
D. Are QC samples used to correct data?	N
E. Are all data critically examined to ensure it has been properly calculated and reported?	N
VII. Surficial Well Inspection and Field Observation **A. Are the wells adequately maintained?**	Y
B. Are the monitoring wells protected and secure?	N
C. Do the wells have surveyed casing elevations?	Y
D. Are the ground-water samples turbid?	?
E. Have all physical characteristics of the site been noted in the inspector's field notes (i.e., surface waters, topography, surface features)?	Y
F. Has a site sketch been prepared by the field inspector with scale, north arrow, location(s) of buildings, location(s) of regulated units, locations of monitoring wells, and a rough depiction of the site drainage pattern?	Y

	Y/N
VIII. Conclusions A. Is the facilitycurrently operating under the correct monitoring progaram according to the statistical analyses performed by the current operator?	N
B. Does the ground-water monitoring system, as designed and operated, allow for detection or assessment of any possible ground-water contamination caused by the facility?	N
C. Does the sampling and analysis procedures permit the owner/operator to detect and, where possible, assess the nature and extent of a release of hazardous constituents to ground water from the monitored hazardous waste management facility?	N

Figure 4.3
Relationship of Technical Inadequacies to Ground-Water Performance Standards

Examples of Basic Elements Required by Performance Standards	Examples of Technical Inadequacies that may Constitute Violations	Regulatory Citations
1. Uppermost Aquifer must be correctly identified.	• failure to consider aquifers hydraulically interconnected to the uppermost aquifer.	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
	• incorrect identification of certain formations as confining layers or aquitards.	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
	• failure to use test drilling and/or soil borings to characterize subsurface hydrogeology.	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
2. Ground-water flow directions and rates must be properly determined.	• failure to use piezometers or wells to determine ground-water flow rates and directions (or failure to use a sufficient number of them).	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
	• failure to consider temporal variations in water levels when establishing flow directions (e.g., seasonal variations, short-term fluctuations due to pumping).	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
	• failure to assess significance of vertical gradients when evaluating flow rates and directions.	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
	• failure to use standard/consistent benchmarks when establishing water level elevations.	§265.90(a) §265.91(a)(1, 2) §270.14(c)(2)
	• failure of the owner/operator (o/o) to consider the effect of local withdrawal wells on ground-water flow direction.	§265.90(a) §265.91(a)(1)
	• failure of the o/o to obtain sufficient water level measurements.	§265.90(a) §265.91(a)(1)

Examples of Basic Elements Required by Performance Standards	Examples of Technical Inadequacies that may Constitute Violations	Regulatory Citations
3. Background wells must be located so as to yield samples that are not affected by the facility.	• failure of the o/o to consider the effect of local withdrawal wells on ground-water flow direction.	§265.90(a) §265.91(a)(1)
	• failure of the o/o to obtain sufficient water level measurements.	§265.90(a) §265.91(a)(1)
	• failure of the o/o to consider flow path of dense immiscibles in establishing upgradient well locations.	§265.90(a) §265.91(a)(1)
	• failure of the o/o to consider seasonal fluctuations in ground-water flow direction.	§265.90(a) §265.91(a)(1)
	• failure to install wells hydraulically upgradient, except in cases where upgradient water quality is affected by the facility (e.g., migration of dense immiscibles in the upgradient direction, mounding water beneath the facility).	§265.90(a) §265.91(a)(1)
	• failure of the o/o to adequately characterize subsurface hydrogeology.	§265.90(a) §265.91(a)(1)
	• wells intersect only ground water that flows around facility.	§265.90(a) §265.91(a)(1)
4. Background wells must be constructed so as to yield samples that are representative of in-situ ground-water quality.	• wells constructed of materials that may release or absorb constituents of concern	§265.90(a) §265.91(a)
	• wells improperly sealed—contamination of sample is a concern.	§265.90(a) §265.91(a), (c)
	• nested or multiple screen wells are used and it cannot be demonstrated that there has been no movement of ground water between strata.	§265.90(a) §265.91(a)(1, 2)

Examples of Basic Elements Required by Performance Standards	Examples of Technical Inadequacies that may Constitute Violations	Regulatory Citations
4. Background wells must be constructed so as to yield samples that are representative of in-situ ground-water quality. (Continued)	• improper drilling methods were used, possibly contaminating the formation.	§265.90(a) §265.91(a)
	• well intake packed with materials that may contaminate sample.	§265.90(a) §265.91(a), (c)
	• well screens used are of an inappropriate length.	§265.90(a) §265.91(a)(1, 2)
	• wells developed using water other than formation water.	§265.90(a) §265.91(a)
	• improper well development yielding samples with suspended sediments that may bias chemical analysis.	§265.90(a) §265.91(a)
	• use of drilling muds or nonformation water during well construction that can bias results of samples collected from wells.	§265.90(a) §265.91(a)
5. Downgradient monitoring wells must be located so as to ensure the immediate detection of any contamination migrating from the facility.	• wells not placed immediately adjacent to waste management area.	§265.90(a) §265.91(a)(2)
	• failure of o/o to consider potential pathways for dense immiscibles.	§265.90(a) §265.91(a)(2)
	• inadequate vertical distribution of wells in thick or heavily stratified aquifer.	§265.90(a) §265.91(a)(2)
	• inadequate horizontal distribution of wells in aquifers of varying hydraulic conductivity.	§265.90(a) §265.91(a)(2)
	• likely pathways of contamination (e.g., buried streams channels, fractures, areas of high permeability) are not intersected by wells.	§265.90(a) §265.91(a)(2)
	• well network covers uppermost but not interconnected aquifers.	§265.90(a) §265.91(a)(2)

Examples of Basic Elements Required by Performance Standards	Examples of Technical Inadequacies that may Constitute Violations	Regulatory Citations
6. Downgradient monitoring wells must be constructed so as to yield samples that are representative of in-situ ground-water quality.	See No. 4 above.	
7. Samples from background and downgradient wells must be properly collected and analyzed.	• failure to evacuate stagnant water from the well before sampling.	§265.90(a), §265.92(a) §265.93(d)(4) §2705.14(c)(4)
	• failure to sample wells within a reasonable amount of time after well evacuation.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• improper decisions regarding filtering or non-filtering of samples prior to analysis (e.g., use of filtration on samples to be analyzed for volatile organics).	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• use of an inappropriate sampling device.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• use of improper sample preservation techniques.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)

Examples of Basic Elements Required by Performance Standards	Examples of Technical Inadequacies that may Constitute Violations	Regulatory Citations
7. Samples from background and downgradient wells must be properly collected and analyzed. (Continued)	• samples collected with a device that is constructed of materials that interfere with sample integrity.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• samples collected with a non-dedicated sampling device that is not cleaned between sampling events.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• improper use of a sampling device such that sample quality is affected (e.g., degassing of sample caused by agitation of bailer).	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• improper handling of samples (e.g., failure to eliminate headspace from containers of samples to be analyzed for volatiles).	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• failure of the sampling plan to establish procedures for sampling immiscibles (i.e., "floaters" and "sinkers").	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• failure to follow appropriate QA/QC procedures.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• failure to ensure sample integrity through the use of proper chain-of-custody procedures.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• failure to demonstrate suitability of methods used for sample analysis (other than those specified in SW-846).	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• failure to perform analysis in the field on unstable parameters or constituents (e.g., pH, Eh, specific conductance, alkalinity, dissolved oxygen).	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)

Examples of Basic Elements Required by Performance Standards	Examples of Technical Inadequacies that may Constitute Violations	Regulatory Citations
7. Samples from background and downgradient wells must be properly collected and analyzed. (Continued)	• use of sample containers that may interfere with sample quality (e.g., synthetic containers used with volatile samples).	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)
	• failure to make proper use of sample blanks.	§265.90(a) §265.92(a) §265.93(d)(4) §270.14(c)(4)

[X]

--- INQUIRY OF SAMPLE H9523367 ---

BOYERTOWN LANDFILL — COLLECTOR NO.: 2141201 — STD ANALYSIS 208
1995 CME — DATE COLLECTED: 04/26/95 — INITIAL FLOW 00
MW-9 — TIME COLLECTED: 10:15 — FINAL FLOW 00
DATE RECEIVED : 04/27/95 — TYPE 00

SAMPLE STATUS: REPORTED ON 05/10/95
STREAM CODE — RIVER MILE IND . — MONITORING PT
REASON CODE 000 — REASON ID — ID CODE
GRND WTR NO — WQN 000

DESCRIPTION		RESULT	UNITS	VC	ANALYST	VER-DATE	COMMENT		
SPEC CONDUC		384.0000		G	SLH	05/01/95	00	00095	
PH LAB		7.3000		G	HWS	04/27/95	00	00403	
T ALK CACO3		166.0000	MG/L	G	HWS	04/27/95	00	00410	
NH3-N	<	.0200	MG/L	G	HEM	04/28/95	00	00610	A
NO3-N		1.5800	MG/L	G	BLF	04/28/95	00	00620	A
C TOT ORGAN		7.6000	MG/L	G	WVM	04/27/95	00	00680	
CA TOT REC		51.6000	MG/L	G	MRO	05/01/95	00	00918	A
MG TOT REC		13.0000	MG/L	G	MRO	05/01/95	00	00921	A
NA TOT REC		6.7100	MG/L	G	MRO	05/01/95	00	00923	A
K TOT REC		4.4500	MG/L	G	MYM	05/01/95	00	00939	A
CL		5.0000	MG/L	G	HEM	04/28/95	00	00940	A
SO4 TOTAL		25.0000	MG/L	G	EVC	05/10/95	00	00945	A

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--- INQUIRY OF SAMPLE H9523367 ---

BOYERTOWN LANDFILL — COLLECTOR NO.: 2141201 — STD ANALYSIS 208
1995 CME — DATE COLLECTED: 04/26/95 — INITIAL FLOW 00
MW-9 — TIME COLLECTED: 10:15 — FINAL FLOW 00
DATE RECEIVED : 04/27/95 — TYPE 00

SAMPLE STATUS: REPORTED ON 05/10/95
STREAM CODE — RIVER MILE IND . — MONITORING PT
REASON CODE 000 — REASON ID — ID CODE
GRND WTR NO — WQN 000

DESCRIPTION		RESULT	UNITS	VC	ANALYST	VER-DATE	COMMENT		
FLUORIDE TO		.2100	MG/L	G	FFV	04/28/95	00	00951	
AS TOT REC	<	4.0000	UG/L	G	DHN	05/05/95	00	00978	H
FE TOT REC		3260.0000	UG/L	G	MRO	05/01/95	00	00980	A
SE TOT REC	<	7.0000	UG/L	G	DHN	05/05/95	00	00981	H
BA TOT REC		213.0000	UG/L	G	MRO	05/01/95	00	01009	A
AG TOT REC	<	10.0000	UG/L	G	MRO	05/01/95	00	01079	A
ZN TOT REC	<	10.0000	UG/L	G	MRO	05/01/95	00	01094	A
CD TOT REC	<	.2000	UG/L	G	DHN	05/05/95	00	01113	H
PB TOT REC		1.3000	UG/L	G	DHN	05/05/95	00	01114	H
CR TOT REC	<	4.0000	UG/L	G	DHN	05/05/95	00	01118	H
CU TOT REC		14.0000	UG/L	G	MRO	05/01/95	00	01119	A
MN TOT REC		65.0000	UG/L	G	MRO	05/01/95	00	01123	A

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--- INQUIRY OF SAMPLE H9523367 ---

BOYERTOWN LANDFILL — COLLECTOR NO.: 2141201 — STD ANALYSIS 208
1995 CME — DATE COLLECTED: 04/26/95 — INITIAL FLOW 00
MW-9 — TIME COLLECTED: 10:15 — FINAL FLOW 00
DATE RECEIVED : 04/27/95 — TYPE 00

SAMPLE STATUS: REPORTED ON 05/10/95

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        STREAM CODE          RIVER MILE IND     .      MONITORING PT
        REASON CODE 000      REASON ID                 ID CODE
        GRND WTR NO          WQN 000
   DESCRIPTION      RESULT        UNITS  VC  ANALYST VER-DATE    COMMENT
   PHENOLS               .0000    UG/L   G    EVC    04/27/95      00    32730  A
   MERCURY REC   <      1.0000    UG/L   G    SAH    04/28/95      00    71901  X
   TURBIDITY         1890.0000    NTU    G    RLS    04/27/95      00    82079
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                      --- INQUIRY OF SAMPLE H9523368 ---
        BOYERTOWN LANDFILL          COLLECTOR NO.: 2141203  STD ANALYSIS 208
        1995 CME                  DATE COLLECTED: 04/26/95 INITIAL FLOW 00
        MW-6                      TIME COLLECTED: 11:00     FINAL  FLOW 00
                                  DATE RECEIVED : 04/27/95          TYPE 00
        SAMPLE STATUS: REPORTED ON 05/10/95
        STREAM CODE          RIVER MILE IND     .      MONITORING PT
        REASON CODE 000      REASON ID                 ID CODE
        GRND WTR NO          WQN 000
   DESCRIPTION      RESULT        UNITS  VC  ANALYST VER-DATE    COMMENT
   SPEC CONDUC         532.0000           G    SLH    05/01/95      00    00095
   PH LAB                7.6000           G    HWS    04/27/95      00    00403
   T ALK CACO3         220.0000    MG/L   G    HWS    04/27/95      00    00410
   NH3-N         <        .0200    MG/L   G    HEM    04/28/95      00    00610  A
   NO3-N                5.3100    MG/L   G    BLF    04/28/95      00    00620  A
   C TOT ORGAN          2.2000    MG/L   G    WVM    04/27/95      00    00680
   CA TOT REC          54.6000    MG/L   G    MRO    05/01/95      00    00918  A
   MG TOT REC          18.6000    MG/L   G    MRO    05/01/95      00    00921  A
   NA TOT REC          10.0000    MG/L   G    MRO    05/01/95      00    00923  A
   K TOT REC            4.3800    MG/L   G    MYM    05/01/95      00    00939  A
   CL                  11.0000    MG/L   G    HEM    04/28/95      00    00940  A
   SO4 TOTAL           30.0000    MG/L   G    EVC    05/10/95      00    00945  A
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                      --- INQUIRY OF SAMPLE H9523368 ---
        BOYERTOWN LANDFILL          COLLECTOR NO.: 2141203  STD ANALYSIS 208
        1995 CME                  DATE COLLECTED: 04/26/95 INITIAL FLOW 00
        MW-6                      TIME COLLECTED: 11:00     FINAL  FLOW 00
                                  DATE RECEIVED : 04/27/95          TYPE 00
        SAMPLE STATUS: REPORTED ON 05/10/95
        STREAM CODE          RIVER MILE IND     .      MONITORING PT
        REASON CODE 000      REASON ID                 ID CODE
        GRND WTR NO          WQN 000
   DESCRIPTION      RESULT        UNITS  VC  ANALYST VER-DATE    COMMENT
   FLUORIDE TO   <      .2000    MG/L   G    FFV    04/28/95      00    00951
   AS TOT REC    <     4.0000    UG/L   G    DHN    05/05/95      00    00978  H
   FE TOT REC       1690.0000    UG/L   G    MRO    05/01/95      00    00980  A
   SE TOT REC    <     7.0000    UG/L   G    DHN    05/05/95      00    00981  H
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   BA TOT REC          331.0000   UG/L   G    MRO    05/01/95     00   01009  A
   AG TOT REC    <      10.0000   UG/L   G    MRO    05/01/95     00   01079  A
   ZN TOT REC    <      10.0000   UG/L   G    MRO    05/01/95     00   01094  A
   CD TOT REC    <        .2000   UG/L   G    DHN    05/05/95     00   01113  H
   PB TOT REC           1.6000   UG/L   G    DHN    05/05/95     00   01114  H
   CR TOT REC    <      4.0000   UG/L   G    DHN    05/05/95     00   01118  H
   CU TOT REC          12.0000   UG/L   G    MRO    05/01/95     00   01119  A
   MN TOT REC          46.0000   UG/L   G    MRO    05/01/95     00   01123  A
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                    --- INQUIRY OF SAMPLE H9523368 ---
        BOYERTOWN LANDFILL          COLLECTOR NO.: 2141203  STD ANALYSIS 208
        1995 CME                  DATE COLLECTED: 04/26/95 INITIAL FLOW 00
        MW-6                      TIME COLLECTED: 11:00     FINAL  FLOW 00
                                  DATE RECEIVED : 04/27/95         TYPE 00
        SAMPLE STATUS: REPORTED ON 05/10/95
        STREAM CODE          RIVER MILE IND    .     MONITORING PT
        REASON CODE 000      REASON ID               ID CODE
        GRND WTR NO          WQN 000
  --DESCRIPTION     RESULT        UNITS  VC  ANALYST VER-DATE   COMMENT
   PHENOLS              .0000   UG/L   G    EVC    04/27/95     00   32730  A
   MERCURY REC   <      1.0000   UG/L   G    SAH    04/28/95     00   71901  X
   TURBIDITY           40.0000   NTU    G    RLS    04/27/95     00   82079
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                    --- INQUIRY OF SAMPLE H9523368 ---
        BOYERTOWN LANDFILL          COLLECTOR NO.: 2141203  STD ANALYSIS 208
        1995 CME                  DATE COLLECTED: 04/26/95 INITIAL FLOW 00
        MW-6                      TIME COLLECTED: 11:00     FINAL  FLOW 00
                                  DATE RECEIVED : 04/27/95         TYPE 00
        SAMPLE STATUS: REPORTED ON 05/10/95
        STREAM CODE          RIVER MILE IND    .     MONITORING PT
        REASON CODE 000      REASON ID               ID CODE
        GRND WTR NO          WQN 000
   DESCRIPTION      RESULT        UNITS  VC  ANALYST VER-DATE   COMMENT
   PHENOLS              .0000   UG/L   G    EVC    04/27/95     00   32730  A
   MERCURY REC   <      1.0000   UG/L   G    SAH    04/28/95     00   71901  X
   TURBIDITY           40.0000   NTU    G    RLS    04/27/95     00   82079
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--- INQUIRY OF SAMPLE H9523369 ---

BOYERTOWN LANDFILL COLLECTOR NO.: 2141205 STD ANALYSIS 208
1995 CME DATE COLLECTED: 04/26/95 INITIAL FLOW 00
MW-7 TIME COLLECTED: 11:30 FINAL FLOW 00
DATE RECEIVED : 04/27/95 TYPE 00

SAMPLE STATUS: REPORTED ON 05/10/95
STREAM CODE RIVER MILE IND . MONITORING PT
REASON CODE 000 REASON ID ID CODE
GRND WTR NO WQN 000

DESCRIPTION	RESULT	UNITS	VC	ANALYST	VER-DATE	COMMENT		
SPEC CONDUC	533.0000		G	SLH	05/01/95	00	00095	
PH LAB	7.1000		G	HWS	04/27/95	00	00403	
T ALK CACO3	188.0000	MG/L	G	HWS	04/27/95	00	00410	
NH3-N	< .0200	MG/L	G	HEM	04/28/95	00	00610	A
NO3-N	2.3500	MG/L	G	BLF	04/28/95	00	00620	A
C TOT ORGAN	4.3000	MG/L	G	WVM	04/27/95	00	00680	
CA TOT REC	116.0000	MG/L	G	MRO	05/01/95	00	00918	A
MG TOT REC	31.3000	MG/L	G	MRO	05/01/95	00	00921	A
NA TOT REC	14.7000	MG/L	G	MRO	05/01/95	00	00923	A
K TOT REC	11.3000	MG/L	G	MYM	05/01/95	00	00939	A
CL	42.0000	MG/L	G	HEM	04/28/95	00	00940	A
SO4 TOTAL	21.0000	MG/L	G	EVC	05/10/95	00	00945	A

Enter Printer # for Printout - [ ] Enter 1 for Menu, 2 for Submenu - [0]

[X]

--- INQUIRY OF SAMPLE H9523369 ---

BOYERTOWN LANDFILL COLLECTOR NO.: 2141205 STD ANALYSIS 208
1995 CME DATE COLLECTED: 04/26/95 INITIAL FLOW 00
MW-7 TIME COLLECTED: 11:30 FINAL FLOW 00
DATE RECEIVED : 04/27/95 TYPE 00

SAMPLE STATUS: REPORTED ON 05/10/95
STREAM CODE RIVER MILE IND . MONITORING PT
REASON CODE 000 REASON ID ID CODE
GRND WTR NO WQN 000

DESCRIPTION	RESULT	UNITS	VC	ANALYST	VER-DATE	COMMENT		
FLUORIDE TO	< .2000	MG/L	G	FFV	04/28/95	00	00951	
AS TOT REC	25.1000	UG/L	G	BHL	05/09/95	00	00978	H
FE TOT REC	56800.0000	UG/L	G	MRO	05/01/95	00	00980	A
SE TOT REC	< 70.0000	UG/L	G	BHL	05/09/95	00	00981	H
BA TOT REC	1190.0000	UG/L	G	MRO	05/01/95	00	01009	A
AG TOT REC	< 10.0000	UG/L	G	MRO	05/01/95	00	01079	A
ZN TOT REC	200.0000	UG/L	G	MRO	05/01/95	00	01094	A
CD TOT REC	< 2.0000	UG/L	G	BHL	05/09/95	00	01113	H
PB TOT REC	87.4000	UG/L	G	BHL	05/09/95	00	01114	H
CR TOT REC	26.5000	UG/L	G	BHL	05/09/95	00	01118	H
CU TOT REC	92.0000	UG/L	G	MRO	05/01/95	00	01119	A
MN TOT REC	898.0000	UG/L	G	MRO	05/01/95	00	01123	A

Enter Printer # for Printout - [ ] Enter 1 for Menu, 2 for Submenu - [0]

[X]

--- INQUIRY OF SAMPLE H9523369 ---

BOYERTOWN LANDFILL COLLECTOR NO.: 2141205 STD ANALYSIS 208
1995 CME DATE COLLECTED: 04/26/95 INITIAL FLOW 00
MW-7 TIME COLLECTED: 11:30 FINAL FLOW 00

```
                                DATE RECEIVED : 04/27/95          TYPE 00
      SAMPLE STATUS: REPORTED ON 05/10/95
      STREAM CODE          RIVER MILE IND     .      MONITORING PT
      REASON CODE 000      REASON ID                 ID CODE
      GRND WTR NO          WQN 000
   DESCRIPTION      RESULT        UNITS  VC  ANALYST VER-DATE    COMMENT
   PHENOLS             2.5000     UG/L   G    EVC     05/04/95     00    32730  A
   MERCURY REC   <     1.0000     UG/L   G    SAH     04/28/95     00    71901  X
   TURBIDITY          69.0000     NTU    G    RLS     04/27/95     00    82079
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                        --- INQUIRY OF SAMPLE H9523370 ---
      BOYERTOWN LANDFILL          COLLECTOR NO.: 2141207  STD ANALYSIS 208
      1995 CME                  DATE COLLECTED: 04/26/95 INITIAL FLOW 00
      MW-8                      TIME COLLECTED: 12:00     FINAL  FLOW 00
                                DATE RECEIVED : 04/27/95          TYPE 00
      SAMPLE STATUS: REPORTED ON 05/10/95
      STREAM CODE          RIVER MILE IND     .      MONITORING PT
      REASON CODE 000      REASON ID                 ID CODE
      GRND WTR NO          WQN 000
   DESCRIPTION      RESULT        UNITS  VC  ANALYST VER-DATE    COMMENT
   SPEC CONDUC        713.0000            G    SLH     05/01/95     00    00095
   PH LAB               7.6000            G    HWS     04/27/95     00    00403
   T ALK CACO3        254.0000     MG/L   G    HWS     04/27/95     00    00410
   NH3-N         <       .0200     MG/L   G    HEM     04/28/95     00    00610  A
   NO3-N              1.7000     MG/L   G    BLF     04/28/95     00    00620  A
   C TOT ORGAN        2.6000     MG/L   G    WVM     04/27/95     00    00680
   CA TOT REC        71.9000     MG/L   G    MRO     05/01/95     00    00918  A
   MG TOT REC        29.1000     MG/L   G    MRO     05/01/95     00    00921  A
   NA TOT REC        10.3000     MG/L   G    MRO     05/01/95     00    00923  A
   K TOT REC          5.2000     MG/L   G    MYM     05/01/95     00    00939  A
   CL                72.0000     MG/L   G    HEM     04/28/95     00    00940  A
   SO4 TOTAL         11.0000     MG/L   G    EVC     05/10/95     00    00945  A
Enter Printer # for Printout - [    ]    Enter 1 for Menu, 2 for Submenu - [0]


[X]
                        --- INQUIRY OF SAMPLE H9523370 ---
      BOYERTOWN LANDFILL          COLLECTOR NO.: 2141207  STD ANALYSIS 208
      1995 CME                  DATE COLLECTED: 04/26/95 INITIAL FLOW 00
      MW-8                      TIME COLLECTED: 12:00     FINAL  FLOW 00
                                DATE RECEIVED : 04/27/95          TYPE 00
      SAMPLE STATUS: REPORTED ON 05/10/95
      STREAM CODE          RIVER MILE IND     .      MONITORING PT
      REASON CODE 000      REASON ID                 ID CODE
      GRND WTR NO          WQN 000
   DESCRIPTION      RESULT        UNITS  VC  ANALYST VER-DATE    COMMENT
   FLUORIDE TO   <     .2000     MG/L   G    FFV     04/28/95     00    00951
   AS TOT REC         14.4000     UG/L   G    BHL     05/09/95     00    00978  H
```

FE TOT REC		4870.0000	UG/L	G	MRO	05/01/95	00	00980	A
SE TOT REC	<	70.0000	UG/L	G	BHL	05/09/95	00	00981	H
BA TOT REC		882.0000	UG/L	G	MRO	05/01/95	00	01009	A
AG TOT REC	<	10.0000	UG/L	G	MRO	05/01/95	00	01079	A
ZN TOT REC		30.0000	UG/L	G	MRO	05/01/95	00	01094	A
CD TOT REC	<	2.0000	UG/L	G	BHL	05/09/95	00	01113	H
PB TOT REC		20.8000	UG/L	G	BHL	05/09/95	00	01114	H
CR TOT REC		5.9000	UG/L	G	BHL	05/09/95	00	01118	H
CU TOT REC		20.0000	UG/L	G	MRO	05/01/95	00	01119	A
MN TOT REC		84.0000	UG/L	G	MRO	05/01/95	00	01123	A

Enter Printer # for Printout - [ ] Enter 1 for Menu, 2 for Submenu - [0]

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--- INQUIRY OF SAMPLE H9523370 ---

BOYERTOWN LANDFILL COLLECTOR NO.: 2141207 STD ANALYSIS 208
1995 CME DATE COLLECTED: 04/26/95 INITIAL FLOW 00
MW-8 TIME COLLECTED: 12:00 FINAL FLOW 00
DATE RECEIVED : 04/27/95 TYPE 00

SAMPLE STATUS: REPORTED ON 05/10/95
STREAM CODE RIVER MILE IND . MONITORING PT
REASON CODE 000 REASON ID ID CODE
GRND WTR NO WQN 000

DESCRIPTION		RESULT	UNITS	VC	ANALYST	VER-DATE	COMMENT		
PHENOLS		.0000	UG/L	G	EVC	04/27/95	00	32730	A
MERCURY REC	<	1.0000	UG/L	G	SAH	04/28/95	00	71901	X
TURBIDITY		630.0000	NTU	G	RLS	04/27/95	00	82079	

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--- INQUIRY OF SAMPLE H9523371 ---

BOYERTOWN LANDFILL COLLECTOR NO.: 2141209 STD ANALYSIS 208
1995 CME DATE COLLECTED: 00/00/00 INITIAL FLOW 00
MW-5 TIME COLLECTED: 00:00 FINAL FLOW 00
DATE RECEIVED : 04/27/95 TYPE 00

SAMPLE STATUS: REPORTED ON 05/10/95
STREAM CODE RIVER MILE IND . MONITORING PT
REASON CODE 000 REASON ID ID CODE
GRND WTR NO WQN 000

DESCRIPTION	RESULT	UNITS	VC	ANALYST	VER-DATE	COMMENT		
SPEC CONDUC	543.0000		G	SLH	05/01/95	00	00095	
PH LAB	7.6000		G	HWS	04/27/95	00	00403	
T ALK CACO3	288.0000	MG/L	G	HWS	04/27/95	00	00410	
NH3-N	.0200	MG/L	G	HEM	04/28/95	00	00610	A
NO3-N	8.2900	MG/L	G	BLF	04/28/95	00	00620	A
C TOT ORGAN	4.9000	MG/L	G	WVM	04/27/95	00	00680	
CA TOT REC	144.0000	MG/L	G	MRO	05/01/95	00	00918	A
MG TOT REC	32.5000	MG/L	G	MRO	05/01/95	00	00921	A
NA TOT REC	9.6600	MG/L	G	MRO	05/01/95	00	00923	A
K TOT REC	7.4900	MG/L	G	MYM	05/01/95	00	00939	A

```
   CL                  16.0000   MG/L   G    HEM    04/28/95      00   00940  A
   SO4 TOTAL           27.0000   MG/L   G    EVC    05/10/95      00   00945  A
Enter Printer # for Printout - [   ]    Enter 1 for Menu, 2 for Submenu - [0]
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                    --- INQUIRY OF SAMPLE H9523371 ---
        BOYERTOWN LANDFILL          COLLECTOR NO.: 2141209  STD ANALYSIS 208
        1995 CME                  DATE COLLECTED: 00/00/00 INITIAL FLOW 00
        MW-5                      TIME COLLECTED: 00:00     FINAL  FLOW 00
                                  DATE RECEIVED : 04/27/95         TYPE 00
        SAMPLE STATUS: REPORTED ON 05/10/95
        STREAM CODE          RIVER MILE IND    .     MONITORING PT
        REASON CODE 000      REASON ID               ID CODE
        GRND WTR NO          WQN 000
   DESCRIPTION     RESULT        UNITS  VC  ANALYST VER-DATE   COMMENT
   FLUORIDE TO  <      .2000    MG/L   G    FFV    04/28/95     00   00951
   AS TOT REC          9.0000   UG/L   G    BHL    05/09/95     00   00978  H
   FE TOT REC      16300.0000   UG/L   G    MRO    05/01/95     00   00980  A
   SE TOT REC   <     70.0000   UG/L   G    BHL    05/09/95     00   00981  H
   BA TOT REC        595.0000   UG/L   G    MRO    05/01/95     00   01009  A
   AG TOT REC   <     10.0000   UG/L   G    MRO    05/01/95     00   01079  A
   ZN TOT REC         97.0000   UG/L   G    MRO    05/01/95     00   01094  A
   CD TOT REC   <      2.0000   UG/L   G    BHL    05/09/95     00   01113  H
   PB TOT REC         76.4000   UG/L   G    BHL    05/09/95     00   01114  H
   CR TOT REC         16.6000   UG/L   G    BHL    05/09/95     00   01118  H
   CU TOT REC         93.0000   UG/L   G    MRO    05/01/95     00   01119  A
   MN TOT REC        487.0000   UG/L   G    MRO    05/01/95     00   01123  A
Enter Printer # for Printout - [   ]    Enter 1 for Menu, 2 for Submenu - [0]
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[X]
                    --- INQUIRY OF SAMPLE H9523371 ---
        BOYERTOWN LANDFILL          COLLECTOR NO.: 2141209  STD ANALYSIS 208
        1995 CME                  DATE COLLECTED: 00/00/00 INITIAL FLOW 00
        MW-5                      TIME COLLECTED: 00:00     FINAL  FLOW 00
                                  DATE RECEIVED : 04/27/95         TYPE 00
        SAMPLE STATUS: REPORTED ON 05/10/95
        STREAM CODE          RIVER MILE IND    .     MONITORING PT
        REASON CODE 000      REASON ID               ID CODE
        GRND WTR NO          WQN 000
   DESCRIPTION     RESULT        UNITS  VC  ANALYST VER-DATE   COMMENT
   PHENOLS             .0000    UG/L   G    EVC    04/27/95     00   32730  A
   MERCURY REC  <      1.0000   UG/L   G    SAH    04/28/95     00   71901  X
   TURBIDITY         450.0000   NTU    G    RLS    04/27/95     00   82079
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Enter Printer # for Printout - [   ]    Enter 1 for Menu, 2 for Submenu - [0]
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ER-BL-13.1 Rev.11/91

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Lab Use Only

Lab Number ORG-1142

Date Received 4/27/95

Matrix Code /

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Boyertown Landfill	1995 CME	MW-5	2141

COUNTY	MUNICIPALITY	GRANT CODE	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Montgomery	Douglass Twp		Cunningham 610-832-9165	ICE	VOA

CARD (3)	ID CODE (ALL CARDS) 4-16						LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24			TIME 25-28		KIND 29
1/2	Cnty	Mun	T	Est	Case	Fac.			M	D	Y	Hr	Min	
								0	6	4	2	6	9	5	1	2	3	0	

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	3 0 0	2 1 4 1 2 0 8		

FULL DESCRIPTION WHERE SAMPLE TAKEN:

REQUESTED LAB ANALYSES

VOA

SEMI VOLS

CUSTODY LOG

How Shipped U.S. Cargo Date 4-26

Legal Seal No. No Seals

Received by:

Seal Condition:

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

See attached sheets for semi-volatile analysis.

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)

ANALYST M. L. McGarvey SIGNATURE DATE 5/5/95

CHLORINE PRESENT IN SAMPLE

_____ YES ___✓___ NO

1 L CLE
4/27/95
TSG

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Laboratories
Organic Chemistry Section
(717) 787-9088

Subject: Interim Sample Reporting Format

To: Organic Sample Submitters

From: Michael L. Webb, Chief
Organic Chemistry Section

Attached are the results of your sample analysis. As the result of new hardware and software that was installed during the months of January and February, we have the ability to provide you with printed results. The first area configured to do so is the VOA analysis area. The attached forms are the first attempt to provide you with the same range of information that we historically have provided. The report comes in two parts. The first is the "Target Compounds Report." This report will list all compounds that we could quantitate along with their CAS number, a qualifier code "Q," and either the determined result or the normal reporting limit corrected for any dilutions made. A list of the qualifier codes and their descriptions have been provided in your packet. Please be aware of the qualifiers when you are interpreting the results. At the end of this report, in a separate section demarcated by a line of "====='s" are results used by the laboratory for quality control measures. These compounds are NOT present in your sample, please ignore them. The second part is the "Tentatively Identified Compounds Report." This report will list all non-target compounds that were detected in your sample with their CAS number, retention time, an estimated concentration (based on the total ion peak area referenced to the total ion area of the internal standard), and a qualifier code "Q." Please note that these identifications have been made solely on the basis of their mass spectra, and similar compounds, particularly isomers, have very similar spectra. In those instances where the unknown compound's spectra is not found in the systems 75,000 spectra database, or where the tentative match is determined to be incorrect by the analyst, the compound name will be represented by "Unknown."

Each page of both reports have identifiers to link the results with the submittal form. "Lab Smp Id" is the combination of the last two digits of the calendar year the sample was received concatenated with a five digit Organic laboratory number. "Client Smp ID" is the sample number provided by the collector (4 digit collector number and 3 digit sequence number). This number is the primary key to finding your sample and it is very important that it be unique during a calendar year.

We anticipate that all the Organic Chemistry Section reports, except for UV, IR, Methane/Ethane and Water Soluble Solvents, will be in this format before the end of the summer. We appreciate that the amount of information provided with this format is significantly more than we have provided in the past. If you have comments or suggestions about the report format we would like to hear them. Our mid-term goal is to develop an improved report, based on your comments, over the course of the year and long term to have the results available on the Department's DEC cluster. If you have any questions I can be reached on E-Mail or at the above telephone number.

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 9501142
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: SV
Data Type: MS DATA
Client SDG: 95043050A
Client Smp ID: 2141208
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: MQM
Misc Info: 95043050A.B:INCOS625.M:01142:2141208:WATER

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
191-24-2	n-nitrosodimethylamine	5.00	U
62-53-3	aniline	5.00	U
108-95-2	Phenol	5.00	U
111-44-4	bis(-2-Chloroethyl)Ether	5.00	U
95-57-8	2-Chlorophenol	5.00	U
541-73-1	1 3-Dichlorobenzene	5.00	U
106-46-7	1 4-Dichlorobenzene	5.00	U
95-50-1	1 2-Dichlorobenzene	5.00	U
100-51-6	Benzyl Alcohol	5.00	U
95-48-7	2-Methylphenol	5.00	U
108-60-1	bis(2-Chloroisopropyl)ether	5.00	U
67-72-1	Hexachloroethane	5.00	U
621-64-7	N-nitroso-Di-n-propylamine	5.00	U
106-44-5	4-Methylphenol	5.00	U
98-95-3	Nitrobenzene	5.00	U
78-59-1	Isophorone	5.00	U
88-75-5	2-Nitrophenol	5.00	U
105-67-9	2 4-Dimethyphenol	5.00	U
111-91-1	bis(-2-Chloroethoxy)Methane	5.00	U
120-83-2	2 4-Dichlorophenol	5.00	U
120-82-1	1 2 4-Trichlorobenzene	5.00	U
91-20-3	Naphthalene	5.00	U
106-47-8	4-Chloroaniline	5.00	U
87-68-3	Hexachlorobutadiene	5.00	U
59-50-7	4-Chloro-3-Methylphenol	5.00	U
91-57-6	2-Methylnaphthalene	5.00	U
77-47-4	Hexachlorocyclopentadiene	5.00	U
88-06-2	2 4 6-Trichlorophenol	5.00	U
95-95-4	2 4 5-Trichlorphenol	5.00	U
91-58-7	2-Chloronaphthalene	5.00	U
88-74-4	2-Nitroaniline	5.00	U
208-96-8	Acenaphthylene	5.00	U
131-11-3	Dimethyl Phthalate	5.00	U
606-20-2	2 6-Dinitrotoluene	5.00	U
99-09-2	3-Nitroaniline	5.00	U
83-32-9	Acenaphthene	5.00	U
51-28-5	2 4-Dinitrophenol	10	U

MJgm 5/5/95 3 pages.

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 9501142
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: SV
Data Type: MS DATA
Misc Info: 95043050A.B:INCOS625.M:01142:2141208:WATER

Client SDG: 95043050A
Client Smp ID: 2141208
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: MQM

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
132-64-9	Dibenzofuran	5.00	U
100-02-7	4-Nitrophenol	10	U
121-14-2	2 4-Dinitrotoluene	5.00	U
86-73-7	Fluorene	5.00	U
7005-72-3	4-Chlorophenyl-phenylether	5.00	U
84-66-2	Diethylphthalate	5.00	U
100-01-6	4-Nitroaniline	5.00	U
534-52-1	4 6-Dinitro-2-methylphenol	5.00	U
86-30-6	N-nitrosodiphenylamine	5.00	U
101-55-3	4-Bromophenyl-phenylether	5.00	U
118-74-1	Hexachlorobenzene	5.00	U
87-86-5	Pentachlorophenol	5.00	U
85-01-8	Phenanthrene	5.00	U
120-12-7	Anthracene	5.00	U
84-74-2	Di-n-Butylphthalate	5.00	U
206-44-0	Fluoranthene	5.00	U
129-00-0	Pyrene	5.00	U
85-68-7	Butylbenzylphthalate	5.00	U
56-55-3	Benzo(a)Anthracene	5.00	U
91-94-1	3 3'-Dichlorobenzidine	5.00	U
218-01-9	Chrysene	5.00	U
117-81-7	bis(2-ethylhexyl)Phthalate	5.27	
117-84-0	Di-n-octyl Phthalate	5.00	U
205-99-2	Benzo(b)fluoranthene	5.00	U
207-08-9	Benzo(k)fluoranthene	5.00	U
50-32-8	Benzo(a)pyrene	5.00	U
53-70-3	Dibenzo(a h)anthracene	5.00	U
191-24-2	benzo(g,h,i)perylene	5.00	U
367-12-4	2-Fluorophenol	12	
13127-88-3	Phenol-d6	11	
4165-60-0	Nitrobenzene-d5	16	
321-60-8	2-Fluorobiphenyl	14	
118-79-6	2,4,6-Tribromophenol	10	
98904-43-9	Terphenyl-d14	20	

Pa DER Bureau of Laboratories - Organic Chemistry

TENTATIVELY IDENTIFIED COMPOUNDS

Client Name:
Lab Smp Id: 9501142
Operator : MQM
Sample Location:
Sample Matrix: WATER
Analysis Type: SV

Client SDG: 95043050A
Client Smp ID: 2141208
Sample Date:
Sample Point:
Date Received:
Level: LOW

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/KG) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	Unknown	12.668	6.92	J
2. 122-99-6	Ethanol, 2-phenoxy-	15.698	2.24	NJ
3. 57-10-3	Hexadecanoic acid	28.918	3.30	NJ
4. 57-11-4	Octadecanoic acid	31.734	2.11	NJ

ORGANIC LABORATORY QUALIFIERS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

J - Indicates an estimated value.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

ER-BL-13.1 Rev.11/91

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Lab Use Only

Lab Number 95L-1141

Date Received 4/27/95

Matrix Code /

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Bower Town Landfill	1995 CME	MW-5	2141

COUNTY	MUNICIPALITY	GRANT CODE	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Montgomery	Douglass Twp.		Connie Lear 215-532-6155	ICE	VOA

CARD (3)	ID CODE (ALL CARDS) 4-16						LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24			TIME 25-28		KIND 29
1/2	Cnty	Mun	T	Est	Case	Fac.			M	D	Y	Hr	Min	
								0	04	25	95	12	30	

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	300	214128		

FULL DESCRIPTION WHERE SAMPLE TAKEN:

REQUESTED LAB ANALYSES

VOA

SEMI VOLS

CUSTODY LOG

How Shipped U.S. Mail Date 4-26

Legal Seal No. No Seals

Received by:

Legal Seal Condition:

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)

ANALYST C C Liao DATE 5-5-95

SIGNATURE

CHLORINE PRESENT IN SAMPLE

____ YES X NO

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Laboratories
Organic Chemistry Section
(717) 787-9088

Subject: Interim Sample Reporting Format

To: Organic Sample Submitters

From: Michael L. Webb, Chief
Organic Chemistry Section

Attached are the results of your sample analysis. As the result of new hardware and software that was installed during the months of January and February, we have the ability to provide you with printed results. The first area configured to do so is the VOA analysis area. The attached forms are the first attempt to provide you with the same range of information that we historically have provided. The report comes in two parts. The first is the "Target Compounds Report." This report will list all compounds that we could quantitate along with their CAS number, a qualifier code "Q," and either the determined result or the normal reporting limit corrected for any dilutions made. A list of the qualifier codes and their descriptions have been provided in your packet. Please be aware of the qualifiers when you are interpreting the results. At the end of this report, in a separate section demarcated by a line of "====='s" are results used by the laboratory for quality control measures. These compounds are NOT present in your sample, please ignore them. The second part is the "Tentatively Identified Compounds Report." This report will list all non-target compounds that were detected in your sample with their CAS number, retention time, an estimated concentration (based on the total ion peak area referenced to the total ion area of the internal standard), and a qualifier code "Q." Please note that these identifications have been made solely on the basis of their mass spectra, and similar compounds, particularly isomers, have very similar spectra. In those instances where the unknown compound's spectra is not found in the systems 75,000 spectra database, or where the tentative match is determined to be incorrect by the analyst, the compound name will be represented by "Unknown."

Each page of both reports have identifiers to link the results with the submittal form. "Lab Smp Id" is the combination of the last two digits of the calendar year the sample was received concatenated with a five digit Organic laboratory number. "Client Smp ID" is the sample number provided by the collector (4 digit collector number and 3 digit sequence number). This number is the primary key to finding your sample and it is very important that it be unique during a calendar year.

We anticipate that all the Organic Chemistry Section reports, except for UV, IR, Methane/Ethane and Water Soluble Solvents, will be in this format before the end of the summer. We appreciate that the amount of information provided with this format is significantly more than we have provided in the past. If you have comments or suggestions about the report format we would like to hear them. Our mid-term goal is to develop an improved report, based on your comments, over the course of the year and long term to have the results available on the Department's DEC cluster. If you have any questions I can be reached on E-Mail or at the above telephone number.

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 501142
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: MS DATA
Misc Info: 95042850B.B:VOACLP390.M:501142:2141208:WATER

Client SDG: 95042850B
Client Smp ID: 2141208
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: CCL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
75-71-8	dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	10	U
1634-04-4	2-methoxy-2-methylpropane	10	U
108-05-4	vinyl acetate	10	U
156-60-5	1,2-Dichloroethene (total)	10	U
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
594-20-7	2,2-dichloropropane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-dichloroethene	10	U
67-66-3	Chloroform	10	U
109-99-9	tetrahydrofuran	10	U
71-55-6	1,1,1-Trichloroethane	10	U
563-58-6	1,1-dichloro-1-propene	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
74-95-3	dibromomethane	10	U
110-75-8	2-chloroethylvinyl ether	10	U
108-10-1	4-Methyl-2-Pentonone	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U

3 pages cc L

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 501142
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: MS DATA
Misc Info: 95042850B.B:VOACLP390.M:501142:2141208:WATER

Client SDG: 95042850B
Client Smp ID: 2141208
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: CCL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
142-28-9	1,3-dichloropropane	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
630-20-6	1,1,1,2-tetrachloroethane	10	U
100-41-4	Ethylbenzene	10	U
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	1-methylethylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
96-18-4	1,2,3-trichloropropane	10	U
103-65-1	propylbenzene	10	U
108-86-1	bromobenzene	10	U
95-49-8	o-chlorotoluene	10	U
106-43-4	p-chlorotoluene	10	U
108-67-8	1,3,5-trimethylbenzene	10	U
98-82-8	1,1-dimethylethylbenzene	10	U
95-63-6	1,2,4-trimethylbenzene	10	U
99-87-6	1-methylpropylbenzene	10	U
99-87-6	4-isopropyltoluene	10	U
541-73-1	1,3-dichlorobenzene	0.367	J
106-46-7	1,4-dichlorobenzene	0.443	J
104-51-8	butylbenzene	10	U
95-50-1	1,2-dichlorobenzene	0.284	J
96-12-8	1,2-dibromo-3-chloropropane	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-68-3	1,1,2,3,4,4-hexachloro-1,3-b	10	U
91-20-3	naphthalene	10	U
87-61-6	1,2,3-trichlorobenzene	0.734	J
----------	1,2-Dichloroethane-d4	48	
2037-26-5	Toluene-d8	47	
460-00-4	4-bromofluorobenzene	38	

Pa DER Bureau of Laboratories - Organic Chemistry

TENTATIVELY IDENTIFIED COMPOUNDS

Client Name:
Lab Smp Id: 501142
Operator : CCL
Sample Location:
Sample Matrix: WATER
Analysis Type: VOA

Client SDG: 95042850B
Client Smp ID: 2141208
Sample Date:
Sample Point:
Date Received:
Level: LOW

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/KG) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

ORGANIC LABORATORY QUALIFIERS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

J - Indicates an estimated value.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

ER-BL-13.1 Rev.11/91

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Lab Use Only

Lab Number 026-1139

Date Received 4/27/95

Matrix Code /

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Boyertown Landfill	1995 CME	MW-6	2141

COUNTY	MUNICIPALITY	GRANT CODE	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Montgomery	Douglass Twp	13WM	Cunningham 610-832-6165	ICE	VOA

CARD (3)	ID CODE (ALL CARDS) 4-16						LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24			TIME 25-28		KIND 29
1/2	Cnty	Mun	T	Est	Case	Fac.			M	D	Y	Hr	Min	
								0	04	26	95	11	06	

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	300	214202		

FULL DESCRIPTION WHERE SAMPLE TAKEN:

REQUESTED LAB ANALYSES

VOA

SEMI VOL

CUSTODY LOG

How Shipped U.S. Cargo Date 4-26

Legal Seal No. No Seals

Received by:

Seal Condition:

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

See attached sheets for Semi-volatile analysis.

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)

ANALYST M.J. McSweeney SIGNATURE DATE 5/4/95

CHLORINE PRESENT IN SAMPLE

_____ YES _____ NO

1 L CLE
TSH
4/24/95

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Laboratories
Organic Chemistry Section
(717) 787-9088

Subject: Interim Sample Reporting Format

To: Organic Sample Submitters

From: Michael L. Webb, Chief
Organic Chemistry Section

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Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 9501139
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: SV
Data Type: MS DATA
Misc Info: 95043050A.B:INCOS625.M:01139:2141202

Client SDG: 95043050A
Client Smp ID: 2141202
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: MQM

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
191-24-2	n-nitrosodimethylamine	5.00	U
62-53-3	aniline	5.00	U
108-95-2	Phenol	5.00	U
111-44-4	bis(-2-Chloroethyl)Ether	5.00	U
95-57-8	2-Chlorophenol	5.00	U
541-73-1	1 3-Dichlorobenzene	5.00	U
106-46-7	1 4-Dichlorobenzene	5.00	U
95-50-1	1 2-Dichlorobenzene	5.00	U
100-51-6	Benzyl Alcohol	5.00	U
95-48-7	2-Methylphenol	5.00	U
108-60-1	bis(2-Chloroisopropyl)ether	5.00	U
67-72-1	Hexachloroethane	5.00	U
621-64-7	N-nitroso-Di-n-propylamine	5.00	U
106-44-5	4-Methylphenol	5.00	U
98-95-3	Nitrobenzene	5.00	U
78-59-1	Isophorone	5.00	U
88-75-5	2-Nitrophenol	5.00	U
105-67-9	2 4-Dimethyphenol	5.00	U
111-91-1	bis(-2-Chloroethoxy)Methane	5.00	U
120-83-2	2 4-Dichlorophenol	5.00	U
120-82-1	1 2 4-Trichlorobenzene	5.00	U
91-20-3	Naphthalene	5.00	U
106-47-8	4-Chloroaniline	5.00	U
87-68-3	Hexachlorobutadiene	5.00	U
59-50-7	4-Chloro-3-Methylphenol	5.00	U
91-57-6	2-Methylnaphthalene	5.00	U
77-47-4	Hexachlorocyclopentadiene	5.00	U
88-06-2	2 4 6-Trichlorophenol	5.00	U
95-95-4	2 4 5-Trichlorphenol	5.00	U
91-58-7	2-Chloronaphthalene	5.00	U
88-74-4	2-Nitroaniline	5.00	U
208-96-8	Acenaphthylene	5.00	U
131-11-3	Dimethyl Phthalate	5.00	U
606-20-2	2 6-Dinitrotoluene	5.00	U
99-09-2	3-Nitroaniline	5.00	U
83-32-9	Acenaphthene	5.00	U
51-28-5	2 4-Dinitrophenol	10	U

Mgm 5/5/95 3 pages

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 9501139
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: SV
Data Type: MS DATA
Misc Info: 95043050A.B:INCOS625.M:01139:2141202

Client SDG: 95043050A
Client Smp ID: 2141202
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: MQM

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
132-64-9	Dibenzofuran	5.00	U
100-02-7	4-Nitrophenol	10	U
121-14-2	2 4-Dinitrotoluene	5.00	U
86-73-7	Fluorene	5.00	U
7005-72-3	4-Chlorophenyl-phenylether	5.00	U
84-66-2	Diethylphthalate	5.00	U
100-01-6	4-Nitroaniline	5.00	U
534-52-1	4 6-Dinitro-2-methylphenol	5.00	U
86-30-6	N-nitrosodiphenylamine	5.00	U
101-55-3	4-Bromophenyl-phenylether	5.00	U
118-74-1	Hexachlorobenzene	5.00	U
87-86-5	Pentachlorophenol	5.00	U
85-01-8	Phenanthrene	5.00	U
120-12-7	Anthracene	5.00	U
84-74-2	Di-n-Butylphthalate	5.00	U
206-44-0	Fluoranthene	5.00	U
129-00-0	Pyrene	5.00	U
85-68-7	Butylbenzylphthalate	5.00	U
56-55-3	Benzo(a)Anthracene	5.00	U
91-94-1	3 3'-Dichlorobenzidine	5.00	U
218-01-9	Chrysene	5.00	U
117-81-7	bis(2-ethylhexyl)Phthalate	5.00	U
117-84-0	Di-n-octyl Phthalate	5.00	U
205-99-2	Benzo(b)fluoranthene	5.00	U
207-08-9	Benzo(k)fluoranthene	5.00	U
50-32-8	Benzo(a)pyrene	5.00	U
53-70-3	Dibenzo(a h)anthracene	5.00	U
191-24-2	benzo(g,h,i)perylene	5.00	U
367-12-4	2-Fluorophenol	13	
13127-88-3	Phenol-d6	33	
4165-60-0	Nitrobenzene-d5	16	
321-60-8	2-Fluorobiphenyl	15	
118-79-6	2,4,6-Tribromophenol	12	
98904-43-9	Terphenyl-d14	18	

Pa DER Bureau of Laboratories - Organic Chemistry

TENTATIVELY IDENTIFIED COMPOUNDS

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Lab Smp Id: 9501139
Operator : MQM
Sample Location:
Sample Matrix: WATER
Analysis Type: SV

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Date Received:
Level: LOW

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ER-BL-13.1 Rev.11/91

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Lab Use Only

Lab Number 026 - 1139

Date Received 4/27/95

Matrix Code /

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Boyertown Landfill	1995 CAE	MW-6	2141

COUNTY	MUNICIPALITY	GRANT CODE	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Montgomery	Douglass Twp	13WM	Cummings 610-832-5455	NC	VOA

CARD (3)	ID CODE (ALL CARDS) 4–16						LATITUDE 4–10	LONGITUDE 11–18	DATE 19–24			TIME 25–28		KIND 29
1/2	Cnty	Mun	T	Est	Case	Fac.		0	M	D	Y	Hr	Min	
									04	25	95	11	00	

USGS Q 30 34	BUREAU 35–37 AMIS	SAMPLE NUMBER 38–43	STREAM NAME 44–57	RELATIVE POINT 58
	310	21412		

FULL DESCRIPTION WHERE SAMPLE TAKEN:

REQUESTED LAB ANALYSES

VOA

SEMI VOL

CUSTODY LOG

How Shipped U.S. Cargo Date 4-26

Legal Seal No. No Seals

Received by:

Seal Condition:

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)

ANALYST cc Law SIGNATURE DATE 5-5-95

CHLORINE PRESENT IN SAMPLE

____ YES X NO

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Laboratories
Organic Chemistry Section
(717) 787-9088

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To: Organic Sample Submitters

From: Michael L. Webb, Chief
Organic Chemistry Section

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Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 501139
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: MS DATA
Client SDG: 95042850B
Client Smp ID: 2141202
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: CCL
Misc Info: 95042850B.B:VOACLP390.M:501139:2141202:WATER

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
75-71-8	dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	10	U
1634-04-4	2-methoxy-2-methylpropane	10	U
108-05-4	vinyl acetate	10	U
156-60-5	1,2-Dichloroethene (total)	10	U
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
594-20-7	2,2-dichloropropane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-dichloroethene	10	U
67-66-3	Chloroform	10	U
109-99-9	tetrahydrofuran	10	U
71-55-6	1,1,1-Trichloroethane	10	U
563-58-6	1,1-dichloro-1-propene	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
74-95-3	dibromomethane	10	U
110-75-8	2-chloroethylvinyl ether	10	U
108-10-1	4-Methyl-2-Pentonone	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U

3 pages CCL

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Data Type: MS DATA
Misc Info: 95042850B.B:VOACLP390.M:501139:2141202:WATER

Client SDG: 95042850B
Client Smp ID: 2141202
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: CCL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
142-28-9	1,3-dichloropropane	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
630-20-6	1,1,1,2-tetrachloroethane	10	U
100-41-4	Ethylbenzene	10	U
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	1-methylethylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
96-18-4	1,2,3-trichloropropane	10	U
103-65-1	propylbenzene	10	U
108-86-1	bromobenzene	10	U
95-49-8	o-chlorotoluene	10	U
106-43-4	p-chlorotoluene	10	U
108-67-8	1,3,5-trimethylbenzene	10	U
98-82-8	1,1-dimethylethylbenzene	10	U
95-63-6	1,2,4-trimethylbenzene	10	U
99-87-6	1-methylpropylbenzene	10	U
99-87-6	4-isopropyltoluene	10	U
541-73-1	1,3-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
104-51-8	butylbenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
96-12-8	1,2-dibromo-3-chloropropane	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-68-3	1,1,2,3,4,4-hexachloro-1,3-b	10	U
91-20-3	naphthalene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U
==========	==========	==========	=====
----------	1,2-Dichloroethane-d4	47	
2037-26-5	Toluene-d8	49	
460-00-4	4-bromofluorobenzene	36	

Pa DER Bureau of Laboratories - Organic Chemistry

TENTATIVELY IDENTIFIED COMPOUNDS

Client Name:
Lab Smp Id: 501139
Operator : CCL
Sample Location:
Sample Matrix: WATER
Analysis Type: VOA

Client SDG: 95042850B
Client Smp ID: 2141202
Sample Date:
Sample Point:
Date Received:
Level: LOW

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/KG) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

ORGANIC LABORATORY QUALIFIERS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

J - Indicates an estimated value.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

ER-BL-13.1 Rev.11/91

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Lab Use Only

Lab Number ORG-1140

Date Received 4/27/95

Matrix Code /

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Boyertown Landfill	1995 CME	MW-7	2141

COUNTY	MUNICIPALITY	GRANT CODE	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Montgomery	Douglass Twp	BWM	Cunningham 610-832-6165	ICE	VOA

CARD (3)	ID CODE (ALL CARDS) 4–16						LATITUDE 4–10	LONGITUDE 11–18	DATE 19–24			TIME 25–28		KIND 29
1/2	Cnty	Mun	T	Est	Case	Fac.		0	M	D	Y	Hr	Min	
									04	26	95	11	30	

USGS Q 30 34	BUREAU 35–37 AMIS	SAMPLE NUMBER 38–43	STREAM NAME 44–57	RELATIVE POINT 58
	300	21/4/204		

FULL DESCRIPTION WHERE SAMPLE TAKEN:

REQUESTED LAB ANALYSES

VOA

SEMI VOLS

CUSTODY LOG

How Shipped U.S. Cargo Date 4-26

Legal Seal No. NO 36615

Received by:

Legal Seal Condition:

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

See attached sheets for Semi-volatile analyses.

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)

ANALYST M. L. McGarvey SIGNATURE DATE 5/5/95

CHLORINE PRESENT IN SAMPLE

____ YES __L_ NO

IL CLE
TSq
4/27/95

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Laboratories
Organic Chemistry Section
(717) 787-9088

Subject: Interim Sample Reporting Format

To: Organic Sample Submitters

From: Michael L. Webb, Chief
Organic Chemistry Section

Attached are the results of your sample analysis. As the result of new hardware and software that was installed during the months of January and February, we have the ability to provide you with printed results. The first area configured to do so is the VOA analysis area. The attached forms are the first attempt to provide you with the same range of information that we historically have provided. The report comes in two parts. The first is the "Target Compounds Report." This report will list all compounds that we could quantitate along with their CAS number, a qualifier code "Q," and either the determined result or the normal reporting limit corrected for any dilutions made. A list of the qualifier codes and their descriptions have been provided in your packet. Please be aware of the qualifiers when you are interpreting the results. At the end of this report, in a separate section demarcated by a line of "====='s" are results used by the laboratory for quality control measures. These compounds are NOT present in your sample, please ignore them. The second part is the "Tentatively Identified Compounds Report." This report will list all non-target compounds that were detected in your sample with their CAS number, retention time, an estimated concentration (based on the total ion peak area referenced to the total ion area of the internal standard), and a qualifier code "Q." Please note that these identifications have been made solely on the basis of their mass spectra, and similar compounds, particularly isomers, have very similar spectra. In those instances where the unknown compound's spectra is not found in the systems 75,000 spectra database, or where the tentative match is determined to be incorrect by the analyst, the compound name will be represented by "Unknown."

Each page of both reports have identifiers to link the results with the submittal form. "Lab Smp Id" is the combination of the last two digits of the calendar year the sample was received concatenated with a five digit Organic laboratory number. "Client Smp ID" is the sample number provided by the collector (4 digit collector number and 3 digit sequence number). This number is the primary key to finding your sample and it is very important that it be unique during a calendar year.

We anticipate that all the Organic Chemistry Section reports, except for UV, IR, Methane/Ethane and Water Soluble Solvents, will be in this format before the end of the summer. We appreciate that the amount of information provided with this format is significantly more than we have provided in the past. If you have comments or suggestions about the report format we would like to hear them. Our mid-term goal is to develop an improved report, based on your comments, over the course of the year and long term to have the results available on the Department's DEC cluster. If you have any questions I can be reached on E-Mail or at the above telephone number.

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 9501140
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: SV
Data Type: MS DATA
Misc Info: 95043050A.B:INCOS625.M:01140:2141204:WATER

Client SDG: 95043050A
Client Smp ID: 2141204
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: MQM

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
191-24-2	n-nitrosodimethylamine	5.00	U
62-53-3	aniline	5.00	U
108-95-2	Phenol	5.00	U
111-44-4	bis(-2-Chloroethyl)Ether	5.00	U
95-57-8	2-Chlorophenol	5.00	U
541-73-1	1 3-Dichlorobenzene	5.00	U
106-46-7	1 4-Dichlorobenzene	5.00	U
95-50-1	1 2-Dichlorobenzene	5.00	U
100-51-6	Benzyl Alcohol	5.00	U
95-48-7	2-Methylphenol	5.00	U
108-60-1	bis(2-Chloroisopropyl)ether	5.00	U
67-72-1	Hexachloroethane	5.00	U
621-64-7	N-nitroso-Di-n-propylamine	5.00	U
106-44-5	4-Methylphenol	5.00	U
98-95-3	Nitrobenzene	5.00	U
78-59-1	Isophorone	5.00	U
88-75-5	2-Nitrophenol	5.00	U
105-67-9	2 4-Dimethyphenol	5.00	U
111-91-1	bis(-2-Chloroethoxy)Methane	5.00	U
120-83-2	2 4-Dichlorophenol	5.00	U
120-82-1	1 2 4-Trichlorobenzene	5.00	U
91-20-3	Naphthalene	5.00	U
106-47-8	4-Chloroaniline	5.00	U
87-68-3	Hexachlorobutadiene	5.00	U
59-50-7	4-Chloro-3-Methylphenol	5.00	U
91-57-6	2-Methylnaphthalene	5.00	U
77-47-4	Hexachlorocyclopentadiene	5.00	U
88-06-2	2 4 6-Trichlorophenol	5.00	U
95-95-4	2 4 5-Trichlorphenol	5.00	U
91-58-7	2-Chloronaphthalene	5.00	U
88-74-4	2-Nitroaniline	5.00	U
208-96-8	Acenaphthylene	5.00	U
131-11-3	Dimethyl Phthalate	5.00	U
606-20-2	2 6-Dinitrotoluene	5.00	U
99-09-2	3-Nitroaniline	5.00	U
83-32-9	Acenaphthene	5.00	U
51-28-5	2 4-Dinitrophenol	10	U

w/fm. 5/5/95 3 pages

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 9501140
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: SV
Data Type: MS DATA
Misc Info: 95043050A.B:INCOS625.M:01140:2141204:WATER

Client SDG: 95043050A
Client Smp ID: 2141204
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: MQM

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
132-64-9	Dibenzofuran	5.00	U
100-02-7	4-Nitrophenol	10	U
121-14-2	2 4-Dinitrotoluene	5.00	U
86-73-7	Fluorene	5.00	U
7005-72-3	4-Chlorophenyl-phenylether	5.00	U
84-66-2	Diethylphthalate	5.00	U
100-01-6	4-Nitroaniline	5.00	U
534-52-1	4 6-Dinitro-2-methylphenol	5.00	U
86-30-6	N-nitrosodiphenylamine	5.00	U
101-55-3	4-Bromophenyl-phenylether	5.00	U
118-74-1	Hexachlorobenzene	5.00	U
87-86-5	Pentachlorophenol	5.00	U
85-01-8	Phenanthrene	5.00	U
120-12-7	Anthracene	5.00	U
84-74-2	Di-n-Butylphthalate	5.00	U
206-44-0	Fluoranthene	5.00	U
129-00-0	Pyrene	5.00	U
85-68-7	Butylbenzylphthalate	5.00	U
56-55-3	Benzo(a)Anthracene	5.00	U
91-94-1	3 3'-Dichlorobenzidine	5.00	U
218-01-9	Chrysene	5.00	U
117-81-7	bis(2-ethylhexyl)Phthalate	5.00	U
117-84-0	Di-n-octyl Phthalate	5.00	U
205-99-2	Benzo(b)fluoranthene	5.00	U
207-08-9	Benzo(k)fluoranthene	5.00	U
50-32-8	Benzo(a)pyrene	5.00	U
53-70-3	Dibenzo(a h)anthracene	5.00	U
191-24-2	benzo(g,h,i)perylene	5.00	U
367-12-4	2-Fluorophenol	14	
13127-88-3	Phenol-d6	34	
4165-60-0	Nitrobenzene-d5	18	
321-60-8	2-Fluorobiphenyl	16	
118-79-6	2,4,6-Tribromophenol	16	
98904-43-9	Terphenyl-d14	21	

Pa DER Bureau of Laboratories - Organic Chemistry

TENTATIVELY IDENTIFIED COMPOUNDS

Client Name:
Lab Smp Id: 9501140
Operator : MQM
Sample Location:
Sample Matrix: WATER
Analysis Type: SV

Client SDG: 95043050A
Client Smp ID: 2141204
Sample Date:
Sample Point:
Date Received:
Level: LOW

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/KG) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

ORGANIC LABORATORY QUALIFIERS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

J - Indicates an estimated value.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

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ER-BL-13.1 Rev.11/91

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Lab Use Only

Lab Number 5121-1140

Date Received 4/27/95

Matrix Code /

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Boyertown Landfill	1995 CME	MW-7	2141

COUNTY	MUNICIPALITY	GRANT CODE	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Montgomery	Douglass Twp	BWM	Carolyn Lin 610-832-5363 WE		VOA

CARD (3)	ID CODE (ALL CARDS) 4-16						LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24			TIME 25-28		KIND 29
1/2	Cnty	Mun	T	Est	Case	Fac.		0	M	D	Y	Hr	Min	
									04	26	95	11	30	

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	300	114104		

FULL DESCRIPTION WHERE SAMPLE TAKEN:

REQUESTED LAB ANALYSES

VOA

SEMI VOLS

CUSTODY LOG

How Shipped UPS Corp Date 4-26

Legal Seal No. AIO 8615

Received by:

Legal Seal Condition:

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)

ANALYST cc Liao SIGNATURE DATE 5-5-95

CHLORINE PRESENT IN SAMPLE

____ YES X NO

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Laboratories
Organic Chemistry Section
(717) 787-9088

Subject: Interim Sample Reporting Format

To: Organic Sample Submitters

From: Michael L. Webb, Chief
Organic Chemistry Section

Attached are the results of your sample analysis. As the result of new hardware and software that was installed during the months of January and February, we have the ability to provide you with printed results. The first area configured to do so is the VOA analysis area. The attached forms are the first attempt to provide you with the same range of information that we historically have provided. The report comes in two parts. The first is the "Target Compounds Report." This report will list all compounds that we could quantitate along with their CAS number, a qualifier code "Q," and either the determined result or the normal reporting limit corrected for any dilutions made. A list of the qualifier codes and their descriptions have been provided in your packet. Please be aware of the qualifiers when you are interpreting the results. At the end of this report, in a separate section demarcated by a line of "====='s" are results used by the laboratory for quality control measures. These compounds are NOT present in your sample, please ignore them. The second part is the "Tentatively Identified Compounds Report." This report will list all non-target compounds that were detected in your sample with their CAS number, retention time, an estimated concentration (based on the total ion peak area referenced to the total ion area of the internal standard), and a qualifier code "Q." Please note that these identifications have been made solely on the basis of their mass spectra, and similar compounds, particularly isomers, have very similar spectra. In those instances where the unknown compound's spectra is not found in the systems 75,000 spectra database, or where the tentative match is determined to be incorrect by the analyst, the compound name will be represented by "Unknown."

Each page of both reports have identifiers to link the results with the submittal form. "Lab Smp Id" is the combination of the last two digits of the calendar year the sample was received concatenated with a five digit Organic laboratory number. "Client Smp ID" is the sample number provided by the collector (4 digit collector number and 3 digit sequence number). This number is the primary key to finding your sample and it is very important that it be unique during a calendar year.

We anticipate that all the Organic Chemistry Section reports, except for UV, IR, Methane/Ethane and Water Soluble Solvents, will be in this format before the end of the summer. We appreciate that the amount of information provided with this format is significantly more than we have provided in the past. If you have comments or suggestions about the report format we would like to hear them. Our mid-term goal is to develop an improved report, based on your comments, over the course of the year and long term to have the results available on the Department's DEC cluster. If you have any questions I can be reached on E-Mail or at the above telephone number.

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 501140
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: MS DATA
Misc Info: 95042850B.B:VOACLP390.M:501140:2141204:WATER

Client SDG: 95042850B
Client Smp ID: 2141204
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: CCL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
75-71-8	dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	10	U
1634-04-4	2-methoxy-2-methylpropane	10	U
108-05-4	vinyl acetate	10	U
156-60-5	1,2-Dichloroethene (total)	10	U
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
594-20-7	2,2-dichloropropane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-dichloroethene	10	U
67-66-3	Chloroform	10	U
109-99-9	tetrahydrofuran	10	U
71-55-6	1,1,1-Trichloroethane	10	U
563-58-6	1,1-dichloro-1-propene	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
74-95-3	dibromomethane	10	U
110-75-8	2-chloroethylvinyl ether	10	U
108-10-1	4-Methyl-2-Pentonone	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U

3 pages cc L

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 501140
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: MS DATA
Misc Info: 95042850B.B:VOACLP390.M:501140:2141204:WATER

Client SDG: 95042850B
Client Smp ID: 2141204
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: CCL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
142-28-9	1,3-dichloropropane	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
630-20-6	1,1,1,2-tetrachloroethane	10	U
100-41-4	Ethylbenzene	10	U
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	1-methylethylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
96-18-4	1,2,3-trichloropropane	10	U
103-65-1	propylbenzene	10	U
108-86-1	bromobenzene	10	U
95-49-8	o-chlorotoluene	10	U
106-43-4	p-chlorotoluene	10	U
108-67-8	1,3,5-trimethylbenzene	10	U
98-82-8	1,1-dimethylethylbenzene	10	U
95-63-6	1,2,4-trimethylbenzene	10	U
99-87-6	1-methylpropylbenzene	10	U
99-87-6	4-isopropyltoluene	10	U
541-73-1	1,3-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
104-51-8	butylbenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
96-12-8	1,2-dibromo-3-chloropropane	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-68-3	1,1,2,3,4,4-hexachloro-1,3-b	10	U
91-20-3	naphthalene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U
==========	==========	==========	=====
----------	1,2-Dichloroethane-d4	48	
2037-26-5	Toluene-d8	50	
460-00-4	4-bromofluorobenzene	39	

Pa DER Bureau of Laboratories - Organic Chemistry

TENTATIVELY IDENTIFIED COMPOUNDS

Client Name:
Lab Smp Id: 501140
Operator : CCL
Sample Location:
Sample Matrix: WATER
Analysis Type: VOA

Client SDG: 95042850B
Client Smp ID: 2141204
Sample Date:
Sample Point:
Date Received:
Level: LOW

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/KG) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

ORGANIC LABORATORY QUALIFIERS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

J - Indicates an estimated value.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

ER-BL-13.1 Rev.11/91

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Lab Use Only

Lab Number C26-1141

Date Received 4/27/95

Matrix Code /

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Boyertown Landfill	1995 CME	MW-8	2141

COUNTY	MUNICIPALITY	GRANT CODE	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Montgomery	Douglass Twp	BWM	Cunningham 610-832-6163	ICE	VOA

CARD (5)	ID CODE (ALL CARDS) 4-16						LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24			TIME 25-28		KIND 29
1/2	Cnty	Mun	T	Est	Case	Fac.			M	D	Y	Hr	Min	
								0	04	26	95	12	00	

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	300	214126		

FULL DESCRIPTION WHERE SAMPLE TAKEN:

REQUESTED LAB ANALYSES

VOA

SEMI VOLS

CUSTODY LOG

How Shipped U.S. Cargo Date 4-26

Legal Seal No. No Seals

Received by:

Seal Condition:

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

See attached sheets for Semi-Volatile analyses

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)

ANALYST M.J. McGarvey SIGNATURE DATE 5/5/95

CHLORINE PRESENT IN SAMPLE

_____ YES ___✓___ NO

1 L CLE
4/27/95
TSG

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Laboratories
Organic Chemistry Section
(717) 787-9088

Subject: Interim Sample Reporting Format

To: Organic Sample Submitters

From: Michael L. Webb, Chief
Organic Chemistry Section

Attached are the results of your sample analysis. As the result of new hardware and software that was installed during the months of January and February, we have the ability to provide you with printed results. The first area configured to do so is the VOA analysis area. The attached forms are the first attempt to provide you with the same range of information that we historically have provided. The report comes in two parts. The first is the "Target Compounds Report." This report will list all compounds that we could quantitate along with their CAS number, a qualifier code "Q," and either the determined result or the normal reporting limit corrected for any dilutions made. A list of the qualifier codes and their descriptions have been provided in your packet. Please be aware of the qualifiers when you are interpreting the results. At the end of this report, in a separate section demarcated by a line of "====='s" are results used by the laboratory for quality control measures. These compounds are NOT present in your sample, please ignore them. The second part is the "Tentatively Identified Compounds Report." This report will list all non-target compounds that were detected in your sample with their CAS number, retention time, an estimated concentration (based on the total ion peak area referenced to the total ion area of the internal standard), and a qualifier code "Q." Please note that these identifications have been made solely on the basis of their mass spectra, and similar compounds, particularly isomers, have very similar spectra. In those instances where the unknown compound's spectra is not found in the systems 75,000 spectra database, or where the tentative match is determined to be incorrect by the analyst, the compound name will be represented by "Unknown."

Each page of both reports have identifiers to link the results with the submittal form. "Lab Smp Id" is the combination of the last two digits of the calendar year the sample was received concatenated with a five digit Organic laboratory number. "Client Smp ID" is the sample number provided by the collector (4 digit collector number and 3 digit sequence number). This number is the primary key to finding your sample and it is very important that it be unique during a calendar year.

We anticipate that all the Organic Chemistry Section reports, except for UV, IR, Methane/Ethane and Water Soluble Solvents, will be in this format before the end of the summer. We appreciate that the amount of information provided with this format is significantly more than we have provided in the past. If you have comments or suggestions about the report format we would like to hear them. Our mid-term goal is to develop an improved report, based on your comments, over the course of the year and long term to have the results available on the Department's DEC cluster. If you have any questions I can be reached on E-Mail or at the above telephone number.

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 9501141
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: SV
Data Type: MS DATA
Misc Info: 95043050A.B:INCOS625.M:01141:2141206:WATER

Client SDG: 95043050A
Client Smp ID: 2141206
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: MQM

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
191-24-2	n-nitrosodimethylamine	5.00	U
62-53-3	aniline	5.00	U
108-95-2	Phenol	5.00	U
111-44-4	bis(-2-Chloroethyl)Ether	5.00	U
95-57-8	2-Chlorophenol	5.00	U
541-73-1	1 3-Dichlorobenzene	5.00	U
106-46-7	1 4-Dichlorobenzene	5.00	U
95-50-1	1 2-Dichlorobenzene	5.00	U
100-51-6	Benzyl Alcohol	5.00	U
95-48-7	2-Methylphenol	5.00	U
108-60-1	bis(2-Chloroisopropyl)ether	5.00	U
67-72-1	Hexachloroethane	5.00	U
621-64-7	N-nitroso-Di-n-propylamine	5.00	U
106-44-5	4-Methylphenol	5.00	U
98-95-3	Nitrobenzene	5.00	U
78-59-1	Isophorone	5.00	U
88-75-5	2-Nitrophenol	5.00	U
105-67-9	2 4-Dimethyphenol	5.00	U
111-91-1	bis(-2-Chloroethoxy)Methane	5.00	U
120-83-2	2 4-Dichlorophenol	5.00	U
120-82-1	1 2 4-Trichlorobenzene	5.00	U
91-20-3	Naphthalene	5.00	U
106-47-8	4-Chloroaniline	5.00	U
87-68-3	Hexachlorobutadiene	5.00	U
59-50-7	4-Chloro-3-Methylphenol	5.00	U
91-57-6	2-Methylnaphthalene	5.00	U
77-47-4	Hexachlorocyclopentadiene	5.00	U
88-06-2	2 4 6-Trichlorophenol	5.00	U
95-95-4	2 4 5-Trichlorphenol	5.00	U
91-58-7	2-Chloronaphthalene	5.00	U
88-74-4	2-Nitroaniline	5.00	U
208-96-8	Acenaphthylene	5.00	U
131-11-3	Dimethyl Phthalate	5.00	U
606-20-2	2 6-Dinitrotoluene	5.00	U
99-09-2	3-Nitroaniline	5.00	U
83-32-9	Acenaphthene	5.00	U
51-28-5	2 4-Dinitrophenol	10	U

Mgm 5/5/95 3 pages.

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 9501141
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: SV
Data Type: MS DATA
Misc Info: 95043050A.B:INCOS625.M:01141:2141206:WATER

Client SDG: 95043050A
Client Smp ID: 2141206
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: MQM

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
132-64-9	Dibenzofuran	5.00	U
100-02-7	4-Nitrophenol	10	U
121-14-2	2 4-Dinitrotoluene	5.00	U
86-73-7	Fluorene	5.00	U
7005-72-3	4-Chlorophenyl-phenylether	5.00	U
84-66-2	Diethylphthalate	5.00	U
100-01-6	4-Nitroaniline	5.00	U
534-52-1	4 6-Dinitro-2-methylphenol	5.00	U
86-30-6	N-nitrosodiphenylamine	5.00	U
101-55-3	4-Bromophenyl-phenylether	5.00	U
118-74-1	Hexachlorobenzene	5.00	U
87-86-5	Pentachlorophenol	5.00	U
85-01-8	Phenanthrene	5.00	U
120-12-7	Anthracene	5.00	U
84-74-2	Di-n-Butylphthalate	5.00	U
206-44-0	Fluoranthene	5.00	U
129-00-0	Pyrene	5.00	U
85-68-7	Butylbenzylphthalate	5.00	U
56-55-3	Benzo(a)Anthracene	5.00	U
91-94-1	3 3'-Dichlorobenzidine	5.00	U
218-01-9	Chrysene	5.00	U
117-81-7	bis(2-ethylhexyl)Phthalate	5.23	
117-84-0	Di-n-octyl Phthalate	5.00	U
205-99-2	Benzo(b)fluoranthene	5.00	U
207-08-9	Benzo(k)fluoranthene	5.00	U
50-32-8	Benzo(a)pyrene	5.00	U
53-70-3	Dibenzo(a h)anthracene	5.00	U
191-24-2	benzo(g,h,i)perylene	5.00	U
367-12-4	2-Fluorophenol	12	
13127-88-3	Phenol-d6	30	
4165-60-0	Nitrobenzene-d5	15	
321-60-8	2-Fluorobiphenyl	14	
118-79-6	2,4,6-Tribromophenol	14	
98904-43-9	Terphenyl-d14	18	

Pa DER Bureau of Laboratories - Organic Chemistry

TENTATIVELY IDENTIFIED COMPOUNDS

Client Name:
Lab Smp Id: 9501141
Operator : MQM
Sample Location:
Sample Matrix: WATER
Analysis Type: SV

Client SDG: 95043050A
Client Smp ID: 2141206
Sample Date:
Sample Point:
Date Received:
Level: LOW

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/KG) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1653-30-1	2-Undecanol	6.784	32	NJ
2.	0-00-0	4-Undecene, 6-methyl-	8.739	5.59	NJ

ORGANIC LABORATORY QUALIFIERS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

J - Indicates an estimated value.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

ER-BL-13.1 Rev.11/91

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Lab Use Only

Lab Number 95-1141

Date Received 4/27/95

Matrix Code /

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Boyertown Landfill	1995 CME	MW-8	21411

COUNTY	MUNICIPALITY	GRANT CODE	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Montgomery	Douglass Twp	BWM	Cunningham 610-832-7665	ICE	VOA

CARD (3)	ID CODE (ALL CARDS) 4-16						LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24			TIME 25-28		KIND 29
1/2	Cnty	Mun	T	Est	Case	Fac.		0	M	D	Y	Hr	Min	
									04	26	95	12	00	

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	310	21412G		

FULL DESCRIPTION WHERE SAMPLE TAKEN:

REQUESTED LAB ANALYSES

VOA

SEMI VOLS

CUSTODY LOG

How Shipped U.S. Cargo Date 4-26

Legal Seal No. No Seals

Received by:

Legal Seal Condition:

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)

ANALYST CC Liao DATE 5-5-95

SIGNATURE

CHLORINE PRESENT IN SAMPLE

_____ YES ___X___ NO

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Laboratories
Organic Chemistry Section
(717) 787-9088

Subject: Interim Sample Reporting Format

To: Organic Sample Submitters

From: Michael L. Webb, Chief
Organic Chemistry Section

Attached are the results of your sample analysis. As the result of new hardware and software that was installed during the months of January and February, we have the ability to provide you with printed results. The first area configured to do so is the VOA analysis area. The attached forms are the first attempt to provide you with the same range of information that we historically have provided. The report comes in two parts. The first is the "Target Compounds Report." This report will list all compounds that we could quantitate along with their CAS number, a qualifier code "Q," and either the determined result or the normal reporting limit corrected for any dilutions made. A list of the qualifier codes and their descriptions have been provided in your packet. Please be aware of the qualifiers when you are interpreting the results. At the end of this report, in a separate section demarcated by a line of "====='s" are results used by the laboratory for quality control measures. These compounds are NOT present in your sample, please ignore them. The second part is the "Tentatively Identified Compounds Report." This report will list all non-target compounds that were detected in your sample with their CAS number, retention time, an estimated concentration (based on the total ion peak area referenced to the total ion area of the internal standard), and a qualifier code "Q." Please note that these identifications have been made solely on the basis of their mass spectra, and similar compounds, particularly isomers, have very similar spectra. In those instances where the unknown compound's spectra is not found in the systems 75,000 spectra database, or where the tentative match is determined to be incorrect by the analyst, the compound name will be represented by "Unknown."

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Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 501141
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: MS DATA
Misc Info: 95042850B:B:VOACLP390.M:501141:2141206:WATER

Client SDG: 95042850B
Client Smp ID: 2141206
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: CCL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
75-71-8	dichlorodifluoromethane	10	U
74-87-3	Chloromethane	10	U
75-01-4	Vinyl Chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-Dichloroethene	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-09-2	Methylene Chloride	10	U
1634-04-4	2-methoxy-2-methylpropane	10	U
108-05-4	vinyl acetate	10	U
156-60-5	1,2-Dichloroethene (total)	10	U
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
594-20-7	2,2-dichloropropane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-dichloroethene	10	U
67-66-3	Chloroform	10	U
109-99-9	tetrahydrofuran	10	U
71-55-6	1,1,1-Trichloroethane	10	U
563-58-6	1,1-dichloro-1-propene	10	U
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	10	U
107-06-2	1,2-Dichloroethane	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
74-95-3	dibromomethane	10	U
110-75-8	2-chloroethylvinyl ether	10	U
108-10-1	4-Methyl-2-Pentonone	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
108-88-3	Toluene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U

3 pages cc L

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 501141
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: MS DATA
Misc Info: 95042850B:B:VOACLP390.M:501141:2141206:WATER

Client SDG: 95042850B
Client Smp ID: 2141206
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: CCL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
142-28-9	1,3-dichloropropane	10	U
124-48-1	Dibromochloromethane	10	U
106-93-4	1,2-dibromoethane	10	U
108-90-7	Chlorobenzene	10	U
630-20-6	1,1,1,2-tetrachloroethane	10	U
100-41-4	Ethylbenzene	10	U
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	Styrene	10	U
75-25-2	Bromoform	10	U
98-82-8	1-methylethylbenzene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
96-18-4	1,2,3-trichloropropane	10	U
103-65-1	propylbenzene	10	U
108-86-1	bromobenzene	10	U
95-49-8	o-chlorotoluene	10	U
106-43-4	p-chlorotoluene	10	U
108-67-8	1,3,5-trimethylbenzene	10	U
98-82-8	1,1-dimethylethylbenzene	10	U
95-63-6	1,2,4-trimethylbenzene	10	U
99-87-6	1-methylpropylbenzene	10	U
99-87-6	4-isopropyltoluene	10	U
541-73-1	1,3-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
104-51-8	butylbenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
96-12-8	1,2-dibromo-3-chloropropane	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-68-3	1,1,2,3,4,4-hexachloro-1,3-b	10	U
91-20-3	naphthalene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U
==========	==========	==========	=====
----------	1,2-Dichloroethane-d4	47	
2037-26-5	Toluene-d8	49	
460-00-4	4-bromofluorobenzene	36	

Pa DER Bureau of Laboratories - Organic Chemistry

TENTATIVELY IDENTIFIED COMPOUNDS

Client Name:
Lab Smp Id: 501141
Operator : CCL
Sample Location:
Sample Matrix: WATER
Analysis Type: VOA

Client SDG: 95042850B
Client Smp ID: 2141206
Sample Date:
Sample Point:
Date Received:
Level: LOW

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/KG) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-45-6	Methane, chlorodifluoro-	4.056	0.892	NJ

ORGANIC LABORATORY QUALIFIERS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

J - Indicates an estimated value.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

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ER-BL-13.1 Rev.11/91

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

Lab Use Only

Lab Number 026-1135

Date Received 4/27/95

Matrix Code 1

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Boyertown Landfill	1995 CME	MW-9	2141

COUNTY	MUNICIPALITY	GRANT CODE	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Montgomery	Douglass Twp	BWM	Cunningham 610-832-6165	ICE	VOA

CARD (3)	ID CODE (ALL CARDS) 4-16						LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24			TIME 25-28		KIND 29
1 / 2	Cnty	Mun	T	Est	Case	Fac.		0	M	D	Y	Hr	Min	
									04	26	95	10	15	

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	300	211412 00		

FULL DESCRIPTION WHERE SAMPLE TAKEN:

REQUESTED LAB ANALYSES

VOA

SEMI-VOL

CUSTODY LOG

How Shipped U.S. Cargo Date 4-26

Legal Seal No. A07974-76

Received by:

Legal Seal Condition: INTACT

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

See attached sheets for Semi-volatile analysis.

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)

ANALYST M. J. McGarvey SIGNATURE DATE 5/5/95

CHLORINE PRESENT IN SAMPLE

_____ YES ✓ NO

1 L CLE
4/27/95
TSq

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Laboratories
Organic Chemistry Section
(717) 787-9088

Subject: Interim Sample Reporting Format

To: Organic Sample Submitters

From: Michael L. Webb, Chief
Organic Chemistry Section

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Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 9501138
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: SV
Data Type: MS DATA
Misc Info: 95043050A.B:INCOS625.M:01138:2141200:WATER

Client SDG: 95043050A
Client Smp ID: 2141200
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: MQM

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
191-24-2	n-nitrosodimethylamine	5.00	U
62-53-3	aniline	5.00	U
108-95-2	Phenol	5.00	U
111-44-4	bis(-2-Chloroethyl)Ether	5.00	U
95-57-8	2-Chlorophenol	5.00	U
541-73-1	1 3-Dichlorobenzene	5.00	U
106-46-7	1 4-Dichlorobenzene	5.00	U
95-50-1	1 2-Dichlorobenzene	5.00	U
100-51-6	Benzyl Alcohol	5.00	U
95-48-7	2-Methylphenol	5.00	U
108-60-1	bis(2-Chloroisopropyl)ether	5.00	U
67-72-1	Hexachloroethane	5.00	U
621-64-7	N-nitroso-Di-n-propylamine	5.00	U
106-44-5	4-Methylphenol	5.00	U
98-95-3	Nitrobenzene	5.00	U
78-59-1	Isophorone	5.00	U
88-75-5	2-Nitrophenol	5.00	U
105-67-9	2 4-Dimethyphenol	5.00	U
111-91-1	bis(-2-Chloroethoxy)Methane	5.00	U
120-83-2	2 4-Dichlorophenol	5.00	U
120-82-1	1 2 4-Trichlorobenzene	5.00	U
91-20-3	Naphthalene	5.00	U
106-47-8	4-Chloroaniline	5.00	U
87-68-3	Hexachlorobutadiene	5.00	U
59-50-7	4-Chloro-3-Methylphenol	5.00	U
91-57-6	2-Methylnaphthalene	5.00	U
77-47-4	Hexachlorocyclopentadiene	5.00	U
88-06-2	2 4 6-Trichlorophenol	5.00	U
95-95-4	2 4 5-Trichlorphenol	5.00	U
91-58-7	2-Chloronaphthalene	5.00	U
88-74-4	2-Nitroaniline	5.00	U
208-96-8	Acenaphthylene	5.00	U
131-11-3	Dimethyl Phthalate	5.00	U
606-20-2	2 6-Dinitrotoluene	5.00	U
99-09-2	3-Nitroaniline	5.00	U
83-32-9	Acenaphthene	5.00	U
51-28-5	2 4-Dinitrophenol	10	U

mfm 5/5/95 3 pages

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 9501138
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: SV
Data Type: MS DATA
Misc Info: 95043050A.B:INCOS625.M:01138:2141200:WATER

Client SDG: 95043050A
Client Smp ID: 2141200
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: MQM

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
132-64-9	Dibenzofuran	5.00	U
100-02-7	4-Nitrophenol	10	U
121-14-2	2 4-Dinitrotoluene	5.00	U
86-73-7	Fluorene	5.00	U
7005-72-3	4-Chlorophenyl-phenylether	5.00	U
84-66-2	Diethylphthalate	5.00	U
100-01-6	4-Nitroaniline	5.00	U
534-52-1	4 6-Dinitro-2-methylphenol	5.00	U
86-30-6	N-nitrosodiphenylamine	5.00	U
101-55-3	4-Bromophenyl-phenylether	5.00	U
118-74-1	Hexachlorobenzene	5.00	U
87-86-5	Pentachlorophenol	5.00	U
85-01-8	Phenanthrene	5.00	U
120-12-7	Anthracene	5.00	U
84-74-2	Di-n-Butylphthalate	5.00	U
206-44-0	Fluoranthene	5.00	U
129-00-0	Pyrene	5.00	U
85-68-7	Butylbenzylphthalate	5.00	U
56-55-3	Benzo(a)Anthracene	5.00	U
91-94-1	3 3'-Dichlorobenzidine	5.00	U
218-01-9	Chrysene	5.00	U
117-81-7	bis(2-ethylhexyl)Phthalate	5.00	U
117-84-0	Di-n-octyl Phthalate	5.00	U
205-99-2	Benzo(b)fluoranthene	5.00	U
207-08-9	Benzo(k)fluoranthene	5.00	U
50-32-8	Benzo(a)pyrene	5.00	U
53-70-3	Dibenzo(a h)anthracene	5.00	U
191-24-2	benzo(g,h,i)perylene	5.00	U
367-12-4	2-Fluorophenol	13	
13127-88-3	Phenol-d6	13	
4165-60-0	Nitrobenzene-d5	17	
321-60-8	2-Fluorobiphenyl	16	
118-79-6	2,4,6-Tribromophenol	12	
98904-43-9	Terphenyl-d14	19	

Pa DER Bureau of Laboratories - Organic Chemistry

TENTATIVELY IDENTIFIED COMPOUNDS

Client Name:
Lab Smp Id: 9501138
Operator : MQM
Sample Location:
Sample Matrix: WATER
Analysis Type: SV

Client SDG: 95043050A
Client Smp ID: 2141200
Sample Date:
Sample Point:
Date Received:
Level: LOW

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/KG) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

ORGANIC LABORATORY QUALIFIERS

U - Indicates compound was analyzed for but not detected. The sample quantitation limit is reported.

J - Indicates an estimated value.

N - Indicates presumptive evidence of a compound.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

ER-BL-13.1 Rev.11/91

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
BUREAU OF LABORATORIES
SPECIAL ANALYSES REPORT

MAY 24 1995

Lab Use Only

Lab Number [illegible]

Date Received 4/27/95

Matrix Code /

ESTABLISHMENT	CASE	FACILITY	COLL NUMBER
Boyertown Landfill	1995 ANE	MW-9	21491

COUNTY	MUNICIPALITY	GRANT CODE	COLL NAME/PHONE NUMBER	TYPE TR	STD ANALYSIS
Montgomery	Douglass Twp	BWM	Cunningham 610-832-5464	ANE	DOA

CARD (3) 1/2	ID CODE (ALL CARDS) 4-16						LATITUDE 4-10	LONGITUDE 11-18	DATE 19-24			TIME 25-28		KIND 29
	Cnty	Mun	T	Est	Case	Fac.		0	M	D	Y	Hr	Min	
									04	26	95	10	15	

USGS Q 30 34	BUREAU 35-37 AMIS	SAMPLE NUMBER 38-43	STREAM NAME 44-57	RELATIVE POINT 58
	360	21412100		

FULL DESCRIPTION WHERE SAMPLE TAKEN:

REQUESTED LAB ANALYSES

VOA

SEMI-VOL

CUSTODY LOG

How Shipped U.S. Cargo Date 4-26

Legal Seal No. A07974-76

Received by:

Legal Seal Condition: INTACT

QUALITATIVE REPORT

DO NOT WRITE BELOW THIS LINE

QUANTITATIVE RESULTS

ANALYSIS:	UNITS:	ANALYSIS CODE	RESULTS (SHOW DECIMAL POINTS ON LINES)

CHLORINE PRESENT IN SAMPLE

____ YES X NO

ANALYST [illegible]
SIGNATURE

DATE 5/17/95

Commonwealth of Pennsylvania
Department of Environmental Resources
Bureau of Laboratories
Organic Chemistry Section
(717) 787-9088

Subject: Interim Sample Reporting Format

To: Organic Sample Submitters

From: Michael L. Webb, Chief
Organic Chemistry Section

Attached are the results of your sample analysis. As the result of new hardware and software that was installed during the months of January and February, we have the ability to provide you with printed results. The first area configured to do so is the VOA analysis area. The attached forms are the first attempt to provide you with the same range of information that we historically have provided. The report comes in two parts. The first is the "Target Compounds Report." This report will list all compounds that we could quantitate along with their CAS number, a qualifier code "Q," and either the determined result or the normal reporting limit corrected for any dilutions made. A list of the qualifier codes and their descriptions have been provided in your packet. Please be aware of the qualifiers when you are interpreting the results. At the end of this report, in a separate section demarcated by a line of "====='s" are results used by the laboratory for quality control measures. These compounds are NOT present in your sample, please ignore them. The second part is the "Tentatively Identified Compounds Report." This report will list all non-target compounds that were detected in your sample with their CAS number, retention time, an estimated concentration (based on the total ion peak area referenced to the total ion area of the internal standard), and a qualifier code "Q." Please note that these identifications have been made solely on the basis of their mass spectra, and similar compounds, particularly isomers, have very similar spectra. In those instances where the unknown compound's spectra is not found in the systems 75,000 spectra database, or where the tentative match is determined to be incorrect by the analyst, the compound name will be represented by "Unknown."

Each page of both reports have identifiers to link the results with the submittal form. "Lab Smp Id" is the combination of the last two digits of the calendar year the sample was received concatenated with a five digit Organic laboratory number. "Client Smp ID" is the sample number provided by the collector (4 digit collector number and 3 digit sequence number). This number is the primary key to finding your sample and it is very important that it be unique during a calendar year.

We anticipate that all the Organic Chemistry Section reports, except for UV, IR, Methane/Ethane and Water Soluble Solvents, will be in this format before the end of the summer. We appreciate that the amount of information provided with this format is significantly more than we have provided in the past. If you have comments or suggestions about the report format we would like to hear them. Our mid-term goal is to develop an improved report, based on your comments, over the course of the year and long term to have the results available on the Department's DEC cluster. If you have any questions I can be reached on E-Mail or at the above telephone number.

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 9501138
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: MS DATA
Misc Info: WATER, STR

Client SDG: 950425itd
Client Smp ID: 2141200
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: PISUT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.5	U
74-87-3	Chloromethane	0.5	U
75-01-4	Vinyl Chloride	0.5	U
74-83-9	Bromomethane	0.5	U
75-00-3	Chloroethane	0.5	U
75-69-4	Trichlorofluoromethane	0.5	U
75-35-4	1,1-Dichloroethene	0.5	U
75-09-2	Methylene Chloride	0.5	U
156-60-5	Trans-1,2-dichloroethene	0.5	U
75-34-3	1,1-Dichloroethane	0.5	U
156-59-2	cis-1,2-dichloroethene	0.5	U
67-66-3	Chloroform	0.5	U
74-97-5	Bromochloromethane	0.5	U
71-55-6	1,1,1-Trichloroethane	0.5	U
563-58-6	1,1-dichloropropene	0.5	U
56-23-5	Carbon Tetrachloride	0.5	U
71-43-2	Benzene	0.5	U
107-06-2	1,2-Dichloroethane	0.5	U
79-01-6	Trichloroethene	0.5	U
78-87-5	1,2-Dichloropropane	0.5	U
75-27-4	Bromodichloromethane	0.5	U
74-95-3	Dibromomethane	0.5	U
10061-01-5	cis-1,3-Dichloropropene	0.5	U
108-88-3	Toluene	0.5	U
10061-02-6	trans-1,3-Dichloropropene	0.5	U
79-00-5	1,1,2-Trichloroethane	0.5	U
127-18-4	Tetrachloroethene	0.5	U
142-28-9	1,3-dichloropropane	0.5	U
124-48-1	Dibromochloromethane	0.5	U
108-90-7	Chlorobenzene	0.5	U
100-41-4	Ethylbenzene	0.5	U
630-20-6	1,1,1,2-Tetrachloroethane	0.5	U
108-38-3	m/p-xylene	0.5	U
95-47-6	o-xylene	0.5	U
100-42-5	Styrene	0.5	U
98-82-8	Isopropylbenzene	0.5	U
75-25-2	Bromoform	0.5	U

3 Pages PV

Pa DER Bureau of Laboratories - Organic Chemistry

TARGET COMPOUNDS

Client Name:
Lab Smp Id: 9501138
Sample Location:
Sample Date:
Sample Matrix: WATER
Analysis Type: VOA
Data Type: MS DATA
Misc Info: WATER, STR

Client SDG: 950425itd
Client Smp ID: 2141200
Sample Point:
Date Received:
Quant Type: ISTD
Level: LOW
Operator: PISUT

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/KG) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	0.5	U
96-18-4	1,2,3-Trichloropropane	0.5	U
103-65-1	N-Propylbenzene	0.5	U
108-86-1	Bromobenzene	0.5	U
95-49-8	O-Chlorotoluene	0.5	U
108-67-8	1,3,5-Trimethylbenzene	0.5	U
106-43-4	P-Chlorotolulene	0.5	U
98-06-6	Tert-Butylbenzene	0.5	U
95-63-6	1,2,4-Trimethylbenzene	0.5	U
135-98-8	Sec-Butylbenzene	0.5	U
99-87-6	4-Isopropyltoluene	0.5	U
541-73-1	1,3-Dichlorobenzene	0.5	U
106-46-7	1,4-Dichlorobenzene	0.5	U
104-51-8	N-Butylbenzene	0.5	U
95-50-1	1,2-Dichlorobenzene	0.5	U
120-82-1	1,2,4-Trichlorobenzene	0.5	U
87-68-3	Hexachlorobutadiene	0.5	U
91-20-3	Napthalene	0.5	U
87-61-6	1,2,3-Trichlorobenzene	0.5	U
594-20-7	2,2-Dichloropropane	0.5	U
106-93-4	1,2-Dibromoethane	0.5	U
96-12-8	1,2-Dibromochloropropane	0.5	U
1634-04-4	Methyl-T-Butyl-Ether	0.08	J
17060-07-0	1,2-Dichloroethane-d4	1.0	
2037-26-5	Toluene-d8	1.0	
460-00-4	Bromofluorobenzene	0.9	

3 pages

Pa DER Bureau of Laboratories - Organic Chemistry

TENTATIVELY IDENTIFIED COMPOUNDS

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Lab Smp Id: 9501138
Operator : PISUT
Sample Location:
Sample Matrix: WATER
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Client SDG: 950425itd
Client Smp ID: 2141200
Sample Date:
Sample Point:
Date Received:
Level: LOW

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/KG) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

ORGANIC LABORATORY QUALIFIERS

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